Biological Resources Technical Report

Big Rock 2 Cluster Solar and Storage Project Imperial County, California

JULY 2025

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Table of Contents

SECTION **PAGE NO.**

TABLES

FIGURES

APPENDICES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
BESS	battery energy storage system
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	federal Endangered Species Act
GIS	geographic information system
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
O&M	operations and maintenance
OHWM	ordinary high-water mark
Project	Big Rock 2 Solar and Storage Project
PV	photovoltaic
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

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Executive Summary

The proposed Big Rock 2 Cluster Solar and Storage Project (Project) would consist of a solar photovoltaic energy-generating facility with associated infrastructure. The proposed Project would encompass 1,849 acres located approximately 23 miles southeast of the Salton Sea.

In April and June 2023, Dudek biologists conducted a general biological reconnaissance survey, including vegetation mapping and a habitat assessment for special-status species, as well as an aquatic resources delineation throughout the Project site.

The Project site contains five land covers and vegetation communities: general agriculture, stream channel, creosote bush scrub and allscale scrub shrub alliances, urban/developed, and disturbed habitat. Based on the aquatic resources delineation, approximately 24.79 acres of non-wetland waters may be regulated by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife (CDFW). The Project would avoid all impacts to aquatic resources to the extent possible by design. All general agriculture is assumed to be permanently impacted.

During spring and summer 2023 and 2024, focused surveys for burrowing owl (*Athene cunicularia*) found approximately 89 burrowing owls at 40 locations throughout the Project site. A commitment to avoidance, minimization, or mitigation is included in Mitigation Measure (MM) BIO-1 of this report. Implementation of MM-BIO-2 and MM-BIO-3 would avoid and minimize indirect impacts to burrowing owls. During burrowing owl surveys, one northern harrier (*Circus hudsonius*) was recorded foraging within the Project site. The Project site is not within this species' known breeding area. Therefore, this species has no potential to nest (Cornell Lab of Ornithology 2023).

In 2025, Dudek conducted a focused raptor and nesting bird survey as well as a bat roost assessment, bat emergence survey, and acoustic surveys for bats in support of the Project. No active raptor nests were detected during the focused raptor and nesting bird survey in April 2025. In addition, the Project site was determined to provide little to no suitable roosting habitat for bats, and the bat emergence surveys resulted in no detections of emerging bats. The acoustic surveys resulted in the detection of 8 bat species, all of which are common species found in desert habitats. A total of 834 bat passes were recorded indicating that a few individuals of each of the detected species are likely foraging throughout the Project site, but none are roosting within the Project site.

No other special-status plant or wildlife species were recorded within the Project site, and none have a moderate or high potential to occur. California black rail (*Laterallus jamaicensis coturniculus*) and Yuma Ridgeway's rail (*Rallus obsoletus yumanensis*) have a low potential to forage and no potential to nest within irrigation canals throughout the Project site. Colorado Desert fringe-toed lizard (*Uma notata*), western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), Colorado Valley woodrat (*Neotoma albigula venusta*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), Palm Springs pocket mouse (*Perognathus longimembris bangsi*), and American badger (*Taxidea taxus*) have a low potential to occur within desert scrub communities in the Project site. LeConte's thrasher (*Toxostoma lecontei*) has a low potential to nest and forage within these desert scrub communities. No U.S. Fish and Wildlife–designated critical habitat for a federally listed plant or wildlife species occurs within 1 mile of the Project site. The Project site is not within any wildlife corridors or habitat blocks.

MM-BIO-6 would identify sensitive bird species through a pre-construction nesting bird survey, and implementation of MM-BIO-3, MM-BIO-4, and MM-BIO-5 would avoid and minimize indirect impacts to these species.

Implementation of the proposed Project would not result in any significant impacts to sensitive vegetation communities, state or federally protected wetlands, or wildlife corridors/habitat linkage, nor would it conflict with any local policies, ordinances, or adopted Habitat Conservation Plans. With implementation of the aforementioned mitigation measures, all potential impacts from the proposed Project on biological resources would be reduced to less than significant.

1 Introduction

This Biological Resources Technical Report provides the following items: (1) describes the existing conditions of biological resources within the Big Rock 2 Cluster Solar and Storage Project (Project) site in terms of vegetation, jurisdictional aquatic resources, flora, wildlife, and wildlife habitats; (2) discusses potential impacts to biological resources that would result from implementation of the proposed Project and describe those impacts in terms of biological significance in view of federal, state, and local laws, regulations, and policies; and (3) recommends mitigation measures for potential impacts to special-status biological resources.

1.1 Project Location

The Project site is in unincorporated Imperial County, California (Figure 1, Project Location), south of Interstate 8 and west of El Centro, California. The Project site comprises approximately 1,849 acres of agricultural and undeveloped lands and associated roads, catchments, and irrigation ditches.

The Project site is composed of the following 24 Accessor's Parcel Numbers: 051-290-019, 051-300-016, 051-290-018, 051-320-007, 051-350-004, 051-270-041, 051-270-028, 051-320-006, 051-320-005, 051-280-054, 051-270-036, 051-300-037, 051-300-035, 051-330-003, 051-350-006, 051-350-008, 051-350-007, 051-270-020, 051-300-011, 051-300-026, 051-300-032, 051-300-036, 051-310-027, and 051-310-028. The geographic center of the Project site roughly corresponds with 32.75669 and -115.73002 (decimal degrees). Elevations within the Project site range from 10 to 60 feet below sea level.

1.2 Project Description

The applicant proposes to develop a solar photovoltaic (PV) energy facility and a battery energy storage system (BESS) on site. The Project would have up to a 500-megawatt (MW) solar PV power capacity, and the associated BESS would have up to a 500-(MW) power capacity. Power generated by the Project would be collected using up to 66-kilovolt (kV) collector lines that would run overhead and/or underground to a dedicated Project substation. A 230-kilovolt overhead generation tie (gen-tie) line would link the Project substation to the planned Liebert Substation, which would be connected via an overhead 230-kilovolt gen-tie line to the existing San Diego Gas & Electric (SDG&E) Imperial Valley Substation. The Project is considering two gen-tie line alternatives.

The Project may involve construction of an operations and maintenance (O&M) building, and/or it may be remotely operated. Any unused O&M building, substation, and/or transmission facility areas noted on the site plan may be used for solar energy generation or an energy storage system. It is expected that the Project would require an operational staff of up to 15 full-time employees for as-needed repairs. It is possible that the proposed Project could share O&M, substation, and/or transmission facilities with other adjacent solar PV and BESS facilities that have been approved and entitled by the County of Imperial, or with any future proposed renewable energy projects nearby. In such a scenario, the projects would share personnel, thereby potentially reducing the proposed Project's on-site staff.

After the useful life of the Project, aboveground equipment would be removed, and the area would be restored to its pre-development condition to the maximum extent feasible.

The applicant intends to secure Conditional Use Permits from the County of Imperial, as the lead agency, along with permits and approvals from other relevant agencies, as required by law for construction and operation of the proposed Project.

1.3 Regulatory Setting

1.3.1 Federal

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most listed plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain listed marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under FESA, it is unlawful to take any listed species; FESA defines "take" as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

FESA allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The Migratory Bird Treaty Act protects more than 800 species of birds and prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). On January 7, 2021, USFWS published a final rule, effective December 3, 2021, defining the scope of the Migratory Bird Treaty Act to prohibit incidental take and applying enforcement discretion, consistent with judicial precedent and longstanding agency practice (USFWS 2021). Unintentional or accidental take is not prohibited. Additionally, Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853-3856). Executive Order 13186 requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Two species of eagles that are native to the United States, bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent the species from becoming extinct.

Clean Water Act Section 404

The Clean Water Act (CWA) is the major federal legislation governing water quality, providing guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. CWA Section 401 requires an applicant for a federal license or permit that may result in a discharge of pollutants into waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) administer the 401-certification program in California. CWA Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States. CWA Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. USACE implementing regulations are found in 33 Code of Federal Regulations (CFR) Parts 320 to 332. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the U.S. Environmental Protection Agency in conjunction with USACE (40 CFR 230). The Section 404(b)(1) Guidelines allow the discharge of dredged or fill material into the aquatic ecosystem only if there is no practicable alternative that would have less adverse impacts.

Wetlands and Other Waters of the United States

The definition of waters of the United States establishes the geographic scope for authority under CWA Section 404; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "waters of the United States" (provided in 33 CFR 328.3[a]) has changed multiple times over the past few decades, starting with the *United States v. Riverside Bayview Homes, Inc*. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al. v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. On December 30, 2022, the agencies announced the final Revised Definition of "Waters of the United States" rule (88 CFR 3004–3144). The rule was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the Clean Water Act for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Revised Definition Rule represents a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the 2020 Navigable Waters Protection Rule. The Revised Definition Rule also considers various subsequent court decisions, including two notable Supreme Court decisions.

There are two key changes that the Revised Definition Rule incorporates. Firstly, the Revised Definition Rule reinstates the "Significant Nexus" test. The "Significant Nexus" test refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372–69450). The "Significant Nexus" test attempts to establish a scientific connection between smaller water bodies, such as

ephemeral or intermittent tributaries, and larger, more traditional navigable waters such as rivers. Significant nexus evaluations take into consideration hydrologic and ecologic factors, including volume, duration, and the frequency of surface water flow in the resource, and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. Second, the Revised Definition Rule adopts the "Relatively Permanent Standard" test. To meet the "Relatively Permanent Standard," water bodies must be relatively permanent, standing, or continuously flowing, and have a continuous surface connection to such waters.

On May 25, 2023, the Supreme Court issued its long-anticipated decision in *Sackett v. EPA*, in which it rejected the U.S. Environmental Protection Agency's claim that "waters of the United States," as defined in the CWA, includes wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes waters of the United States (i.e., a relatively permanent body of water connected to traditional interstate navigable waters) and (2) the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends, and the wetland begins. The Revised Definition Rule will need to be modified in light of this decision.

The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high-water mark (OHWM), which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

1.3.2 State

California Endangered Species Act

CDFW administers the California Endangered Species Act (CESA), which prohibits the "take" of plant and animal species designated by the California Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter.

Any animal determined by the [California Fish and Game] Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list."

CESA authorizes the taking of threatened, endangered, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, CESA allows CDFW to adopt a CESA incidental take authorization based on finding that the federal permit adequately protects the species and is consistent with state law through the Section 2080.1 consistency determination.

A CESA permit may not authorize the take of "fully protected" species that are protected in other provisions of the California Fish and Game Code, discussed further below.

California Fish and Game Code

Under the California Fish and Game Code, CDFW provides protection from "take" for a variety of species. Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code provide that designated fully protected species may not be taken or possessed without a permit. Incidental take of these species is not authorized by law. Pursuant to Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds of prey, or to take, possess, or destroy any nest or eggs of such birds. Birds of prey refer to species in the orders Falconiformes and Strigiformes. Nests of all other birds (except English sparrow [*Passer domesticus*] and European starling [*Sturnus vulgaris*]) are protected under Sections 3503 and 3513 of the California Fish and Game Code.

Under Sections 1600–1616 of the California Fish and Game Code, CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code. The limits of CDFW's jurisdiction are defined in the code as the "bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit" (Section 1601). In practice, CDFW usually delineates its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

California Department of Fish and Wildlife Streambed and Riparian Habitat

Pursuant to Section 1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. Under California Fish and Game Code Section 1602, a notification to CDFW is required prior to beginning any project activity that may (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. CDFW requires a Lake and Streambed Alternation Agreement when one of the above project activities may substantially adversely affect fish and wildlife resources. Therefore, wetlands are not regulated by CDFW under California Fish and Game Code Section 1602 unless the wetlands are part of a river, stream, or lake.

State and Regional Water Quality Control Boards

The Porter–Cologne Water Quality Control Act (Porter–Cologne Act) protects water quality and the beneficial uses of water. It applies to surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop regional basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of statewide plans and basin plans. Waters regulated under the Porter–Cologne Act include isolated waters that are not regulated by USACE. RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a "water of the state" (California Water Code Section 13260[a]). Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]). Developments with impacts on jurisdictional waters must demonstrate compliance with the goals of the Porter–Cologne Act by developing stormwater pollution prevention plans, standard urban stormwater mitigation plans, and other measures to obtain a CWA Section 401 Certification. If a CWA Section 404 permit is not required for a project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter–Cologne Act.

California Environmental Quality Act

CEQA (California Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.) require identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or…[t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

In Title 14 of the California Code of Regulations (CCR), Section 1.72, CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."

In 14 CCR 1.56, CDFW's definition of "lake" includes natural lakes and human-built reservoirs. Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code.

CDFW recognizes that all plants with California Rare Plant Rank (CRPR) of 1A, 1B, or 2, and some with CRPR 3 of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants in California (CNPS 2023a) may meet the criteria for listing as threatened or endangered and should be considered under CEQA (CDFW 2023a).

Some of the CRPR 3 and 4 plants meet the criteria for determination as "rare" or "endangered" as defined in Section 1901, Chapter 10 (Native Plant Protection Act), Division 2, of the California Fish and Game Code, as well as Section 2062 and Section 2067, Chapter 1.5 (CESA), Division 3. Therefore, consideration under CEQA for these CRPR 3 and 4 species is strongly recommended by CNPS (CNPS 2023a).

For purposes of this report, animals considered "rare" under CEQA include endangered or threatened species, Birds of Conservation Concern (USFWS 2021), California Species of Special Concern (CDFW 2023a), and fully protected species.

Section IV, Appendix G, Environmental Checklist Form, of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game [now CDFW] or the U.S. Fish and Wildlife Service."

1.3.3 Regional

County of Imperial General Plan

The County of Imperial General Plan Conservation and Open Space Element contains goals, objectives, policies, and programs applicable to biological resources (County of Imperial 2016). This report outlines findings regarding biological resources that can serve to evaluate the proposed Project's consistency with the General Plan, as required by State CEQA Guidelines Section 15125(d).

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2 Methods

Data regarding biological resources present on site were obtained through a review of pertinent literature and field reconnaissance, which are described below.

2.1 Literature Review

The following data sources were reviewed to assist with the biological resources analysis:

- CDFW California Natural Diversity Database (CNDDB) – RareFind, Version 5 and CNDDB in BIOS (CDFW 2023a)
- CNPS's Inventory of Rare and Endangered Plants (CNPS 2023a)
- U.S. Department of Agriculture's Web Soil Survey (USDA 2023a)
- USFWS Critical Habitat and Species Occurrence Data (USFWS 2023a)
- USFWS National Wetlands Inventory (USFWS 2023b)
- Bumble Bees of North America Occurrence Records Database (Richardson 2023)
- Aerial imagery (Google Earth 2023)

Endangered, rare, or threatened species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this Biological Resources Technical Report and include (1) endangered or threatened species recognized in the context of FESA and CESA; (2) plant species with a CRPR of 1A, 1B, or 2 (CDFW 2023b; CNPS 2023a); (3) California Species of Special Concern, as designated by CDFW (CDFW 2023c); and (4) mammals and birds that are fully protected species, as described in California Fish and Game Code Sections 4700 and 3511 (CDFW 2023c). Additionally, this report addresses desert kit fox, as it is considered a "fur-bearing mammal," protected from take under the California Fish and Game Commission's Mammal Hunting Regulations (Subdivision 2, Chapter 5), which effectively protects the species from hunting pressure. Vegetation communities are considered sensitive natural communities or special-status vegetation communities if they have a conservation status of S1, S2, or S3 (CDFW 2023d).

2.2 Field Reconnaissance

Biological, aquatic resource, and burrowing owl (*Athene cunicularia*) surveys for the Project were conducted in 2023 and 2024 by Dudek biologists. Raptor and bat surveys were conducted in support of the Project in 2025. Table 1 lists the survey dates, times, surveying biologist, and weather conditions during the surveys.

Table 1. Schedule of Surveys

Date	Time	Biologist	Survey Type	Conditions
April 7, 2023	6:45 AM–2:30 PM	Kim Parsons	Burrowing Owl – Pass 1	62–88°F, 40–50% cloud cover (cc), 1–10 mile per hour (mph) winds
April 8, 2023	6:00 AM–2:00 PM	Kim Parsons	Burrowing Owl – Pass 1	61–85°F, 30% cc, 2–4 mph winds
April 13, 2023	6:30 AM–1:30 PM	Kim Parsons	Burrowing Owl – Pass 1	63–77°F, 40–80% cc, 8–9 mph winds

Table 1. Schedule of Surveys

Date	Time	Biologist	Survey Type	Conditions
April 14, 2023	7:00 AM–11:00 AM	Kim Parsons, Sandra Nash	Burrowing Owl – Pass 1	57–77°F, 0–10% cc, 4–5 mph winds
April 21, 2023	10:30 AM–4:00 PM	Abby Bergsma	Aquatic Resource Delineation Survey	82–90°F, 0% cc, 2–4 mph winds
May 09, 2023	12:00 PM–3:45 PM	Shane Valiere	Burrowing Owl – Pass 2	87–88°F, 0% cc, 10–15 mph winds
May 10, 2023	9:50 AM–3:00 PM	Shane Valiere	Burrowing Owl – Pass 2	64–86°F, 0% cc, 12–15 mph winds
May 11, 2023	9:45 AM–12:20 PM	Shane Valiere	Burrowing Owl – Pass 2	78–84°F, 0% cc, 4 mph winds
June 14, 2023	7:00 AM–1:00 PM	Shane Valiere	Burrowing Owl – Pass 3	78–98°F, 0% cc, 3–5 mph winds
June 15, 2023	7:00 AM–1:00 PM	Shane Valiere	Burrowing Owl – Pass 3	80–99°F, 0% cc, 6 mph winds
June 16, 2023	7:00 AM–1:00 PM	Shane Valiere	Burrowing Owl – Pass 3	81–100°F, 0% cc, 3–5 mph winds
June 20, 2023	9:45 AM–12:45 PM	Dylan Ayers	Biological Reconnaissance Survey	87–88°F, 0–10% cc, 1–5 mph winds
July 06, 2023	7:00 AM–9:30 AM	Shane Valiere	Burrowing Owl – Pass 4	82–89°F, 0% cc, 2–4 mph winds
July 10, 2023	7:00 AM–12:30 PM	Shane Valiere	Burrowing Owl – Pass 4	84–99°F, 0% cc, 2–3 mph winds
July 12, 2023	7:00 AM–12:30 PM	Shane Valiere	Burrowing Owl – Pass 4	90–105°F, 0% cc, 2–4 2-4 mph winds
April 10, 2024	6:30 AM–10:00 AM	Scott Batchelder, Connor Kelleher	Burrowing Owl – Pass 1	49–82°F, 0% cc, 0–4 mph winds
May 10, 2024	6:15 AM–11:45 AM	Scott Batchelder	Burrowing Owl – Pass 2	61–87°F, 0% cc, 0 mph winds
June 6, 2024	5:45 AM–11:45 AM	Brody Olson, Emily Jones	Burrowing Owl – Pass 3	71–99°F, 0% cc, 5 mph winds
June 28, 2024	5:35 AM – 1:05 PM	Dilip Mahto, Emily Jones	Burrowing Owl – Pass 4	80–108°F, 0% cc, 1–4 mph winds
April 8, 2025	7:30 AM – 3:35 PM	Paul Lemons Jeff Priest	Raptor Survey	60–96°F, 10% cc, 0–5 mph winds
May 19, 2025	4:00 PM – 7:40 PM	Jacob Rogers, Sarah Greely	Bat Surveys	95-99°F, 0% cc, 0–3 mph winds

2.2.1 Vegetation Community and Land Cover Mapping

Vegetation communities and land covers on the Project site were mapped in the field using an ArcGIS mobile application (Esri 2023). Once in ArcGIS, the acreage of each vegetation community and land cover present within the Project site was determined. The vegetation community and land cover mapping follows the Manual of California Vegetation Online (CNPS 2023b) and CDFW's Natural Community List (CDFW 2023d), where feasible, with modifications made to accommodate lack of conformity of the observed communities (e.g., agricultural and disturbed lands) using Oberbauer et al. 2008.

2.2.2 Flora and Fauna

All plant species encountered during the field survey were identified and recorded directly into a field notebook or digital application. Latin and common names for plant species follow either CNPS (CNPS 2023a), Jepson (Jepson Flora Project 2023), or the California Natural Community List (CDFW 2023d).

All wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook. Binoculars (10×42 magnification) were used to aid in the identification of wildlife. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, the American Ornithological Society (AOS 2018) for birds, and Wilson and Reeder (2005) for mammals.

Focused Burrowing Owl Surveys

Breeding season focused burrowing owl surveys were conducted from April through July 2023. Additional breeding season focused burrowing owl surveys were conducted in 2024 for an additional 336 acres that were subsequently added to the Project boundary after the 2023 surveys occurred. See Table 1 for the schedule of surveys.

Surveys were conducted in suitable habitat on the Project site in accordance with the CDFW Staff Report on Burrowing Owl Mitigation (Staff Report) (CDFG 2012). Per Appendix C of the Staff Report, one visit covering the entire Project site was conducted to identify habitat types potentially supporting burrowing owls prior to the initiation of surveys. In accordance with Appendix D of the Staff Report, the initial survey pass was conducted prior to April 15 and involved pedestrian transects of the suitable habitat within the proposed Project site. Subsequent surveys were conducted at least 3 weeks apart and focused on areas where suitable burrows or other shelter sites were identified in the initial survey.

Surveys were conducted in all portions of the Project site that were identified in the habitat assessment and fit the description of habitat outlined in the Staff Report (CDFG 2012). Surveys were conducted by walking straight-line transects spaced 7 to 20 meters (approximately 23 to 66 feet) apart, adjusting for vegetation height and density. All burrowing owl observations and potential burrows were documented.

Bat Roost Assessment and Emergence Survey

A bat roost assessment and emergence surveys were conducted within the Project site on May 19, 2025 to determine if suitable roosting habitat for bats exists and if roosting bats may be impacted during project implementation. Dudek's bat biologists conducted a daytime roost assessment of the project site, focusing on areas providing suitable habitat for roosting bats (i.e., manmade structures, bridges, rocky cliffs, palm trees with full skirts,

dilapidated buildings, etc.). Biologists watched for indicators of bat activity such guano piles, staining of roosting surfaces and the presence of individual bats.

The roost assessment survey was conducted in the afternoon to aid in selecting bat emergence survey locations. The emergence surveys were conducted at sunset at two locations within the southeastern portion of the project site to determine the presence and/or absence of roosting bats emerging from these potential roost sites within the project site. Each of these locations included a partially skirted palm tree which provided the most suitable roosting habitat within the project site. The emergence surveys consisted of a visual survey as well as active acoustic monitoring during the emergence period (i.e., 30 minutes prior to sunset through last light). The acoustic monitoring were used for species identification and aided in determining relative species abundance. Results of roost assessment and emergence survey are provided below, in Section 3.4.1.

Acoustic Detector Surveys for Bats

Dudek biologists also deployed five (5) passive full-spectrum acoustic bat detectors (Wildlife Acoustics SM4Bat) in potentially suitable roost locations and flyways within the project site from May 19 to May 22, 2025, to identify species present and determine the relative level of bat activity within the Project site. The locations of deployed detectors were determined during a desktop review combined with the bat roost assessment survey. The detectors were deployed for a total of three (3) consecutive nights and recorded echolocation calls from 30 minutes prior to sunset to 30 minutes after sunrise, for a total of approximately 36 hours per detector of recording time, or 180 total hours of bat echolocation detection on the Project site. The data was analyzed offsite by Dudek bat biologists using Sonobat 4 software with automated call classification. Any incomplete or ambiguous calls were manually vetted by Dudek's senior bat biologist. The results of the acoustic call analysis are summarized in Section 3.4.1 of this report.

Raptor and Nesting Bird Survey

Dudek's biologists conducted a focused raptor and nesting bird survey of the entire Project site to identify any raptors or active nests present on site. Dudek's biologists focused on suitable nesting habitat and perch locations for hunting throughout the site, particularly for species such as red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco peregrinus*), and northern harrier (*Circus hudsonius*). Suitable nesting habitat for birds was identified by the presence of trees, shrubs, and structures that provide cover within eaves and rafters. Any active nests observed were mapped with a handheld GPS unit, and status of the nest assessed.

2.2.3 Jurisdictional Aquatic Resources

In April 2023, Dudek biologists conducted a formal jurisdictional waters delineation within the Project site. The Project site was surveyed where potential jurisdictional features were observed and was surveyed for the following types of features:

- Waters of the United States, including wetlands, under the jurisdiction of USACE, pursuant to Section 404 of the federal CWA
- Waters of the state under the jurisdiction of the California RWQCB, pursuant to Section 401 of the federal CWA and the Porter-Cologne Water Quality Control Act, as wetlands or drainages
- Streambeds under the jurisdiction of CDFW, pursuant to Section 1602 of the California Fish and Game Code

Non-wetland waters of the United States were delineated based on the presence of an OHWM as determined using the methodology in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a). Wetland waters of the United States were delineated based on methodology described in the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987) and the USACE Regional Supplement (USACE 2008b).

Areas regulated by the RWQCB can also include isolated waters of the state that have evidence of surface water inundation pursuant to the state Porter-Cologne Water Quality Control Act. Isolated features are delineated at the OHWM, at the outer limits of hydrophytic vegetation, or at the outer rim of depressional features, if relevant. The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021) also implements the three parameters criteria (i.e., hydric soils, hydrology, and hydrophytic vegetation) for delineating wetland waters of the state.

Streambeds are typically delineated from top-of-bank to top-of-bank or the extent of associated riparian vegetation beyond the top-of-bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement.

2.2.4 Survey Limitations

Site visits were conducted during daylight hours. Complete inventories of biological resources present on a site often require numerous focused surveys at different times of day during different seasons. Some species, such as annual plants, are present in only spring or summer, and nocturnal animals are difficult to detect during the day. Other species may be present in such low numbers that they could be missed. Due to such timing and seasonal variations, survey results are not an absolute list of all species that the Project site may support.

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3 Results

3.1 Physical Site Characteristics

The physical characteristics and quantification of biological resources described herein pertain to the Project site composed of the 24 Assessor's Parcel Numbers listed in Section 1.1, Project Location. Current land use of the Project site includes cropland, dryland grain crops, irrigated grain and hayfields, row crops, orchards, pastureland, irrigation ditches, and developed lands with rural infrastructure.

3.1.1 Topography and Drainage

The topography of the Project site is very flat, given its agricultural nature; various earthen and concrete irrigation ditches, with most major irrigation ditches running north to south across the Project site, are the only portions of the site with varying topographic relief. These irrigation ditches are under the ownership and management of the Imperial Irrigation District.

3.1.2 Soils

According to the U.S. Department of Agriculture's Web Soil Survey (USDA 2023a), water plus 16 soil types are mapped within the Project site: Badland; Glenbar complex; Holtville silty clay, wet; Imperial silty clay, wet; Imperial-Glenbar silty clay loams, wet, 0% to 2% slopes; Indio loam, wet; Indio-Vint complex; Meloland and Holtville loams, wet; Meloland fine sand; Meloland very fine sandy loam, wet; Niland fine sand; Rositas fine sand, 0% to 2% slopes; Rositas fine sand, wet, 0% to 2% slopes; Rositas sand, 0% to 2% slopes; Vint and Indio very fine sandy loams, wet; and Vint loamy very fine sand, wet (Figure 2, Soils).

- Holtville Series consists of very deep, well-drained soils formed in mixed and stratified alluvium. These soils have slow permeability, typically occur on floodplains, and are moderately alkaline in the A horizon (USDA 2023a). The Holtville series is the second-most-abundant soil type and comprises small patches throughout the Project site; however, these areas are currently dominated by agricultural uses.
- Imperial Series consists of very deep, calcareous soils with very slow permeability. This soil series typically occurs on floodplains and old lakebeds and is well and moderately well-drained (USDA 2023a). The Imperial series and Imperial-Glenbar association comprise the majority of the Project site; however, these areas are currently dominated by agricultural uses.
- Glenbar Series consists of very deep, well-drained soils formed in stratified stream alluvium. These soils have moderately slow permeability, typically occur in desert floodplains and lacustrine basins, and are moderately alkaline in the A horizon (USDA 2023a). The Imperial-Glenbar association comprises the majority of the Project site; however, these areas are currently dominated by agricultural uses.
- Indio Series consists of very deep, well-drained soils formed in alluvium. These soils are well to moderately drained, with moderate permeability, and occur on lacustrine basins and flood plains (USDA 2023a). The Indio loam series occurs mainly in the northern area of the Project site; however, these areas are currently dominated by agricultural uses.
- Meloland Series consists of naturally well-drained soils with very slow permeability. This soil series typically occurs on floodplains and old lakebeds and are slightly alkaline in the A horizon (USDA 2023a). The

Meloland series comprises patches throughout the Project site; however, this area is currently dominated by agricultural uses.

- Rositas Series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. These soils have rapid permeability and typically occur on dunes and sand sheets (USDA 2023a). The Rositas series comprises a fairly large area in the southern portion of the Project site; however, this area is currently dominated by agricultural uses.
- Vint Series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. These soils have moderately rapid permeability, typically occur on floodplains, and are moderately alkaline in the A horizon (USDA 2023a). The Vint series comprises both large and small patches throughout the Project site; however, these areas are currently dominated by agricultural uses.
- Niland Series consists of well and moderately well drained soils formed in coarse mixed alluvium overlying fine alluvium. These soils have a range of permeability, depending on the sand and clay content, and typically occur on basin and floodplain edges (USDA 2023a). The Niland series comprises a very small area in the southwestern corner of the Project site.
- Badland Series are arid, clay-rich soils that have experienced excessive erosional forces due to wind and water. These soils typically have steep slopes with minimal vegetation and exhibit high drainage. Badlands comprise a very small area of the Project site; this area is currently dominated by agricultural uses.

None of these soil types are ranked as hydric in Imperial County, California (USDA 2023b).

3.2 Vegetation Communities and Land Cover Types

Five land cover types were identified within the Project site during the biological reconnaissance survey: general agriculture, stream channel, creosote bush scrub and allscale scrub shrubland, urban/developed, and disturbed habitat. These land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figures 3-1 and 3-2, Biological Resources. Appendix A provides representative photos of the Project site.

Table 2. Land Covers Within the Project Site

Vegetation Community or Land Cover Type	Total Project Site Acreage
General Agriculture	1,590.38
Stream Channel	5.80
Creosote Bush Scrub and Allscale Scrub Shrubland	80.97
Urban/Developed	5.81
Disturbed Habitat	165.86
Grand Total[1]	**1,848.82**

[1] Totals may not sum due to rounding.

3.2.1 General Agriculture

Agricultural lands are an anthropogenic habitat and are not described by CDFW (2023d) or by CNPS (CNPS 2023b). Within the Project site, agricultural lands consist of alfalfa (*Medicago sativa*), date palms (*Phoenix dactylifera*), Bermudagrass (*Cynodon dactylon*), and herbaceous vegetables, as well as several fallow fields. On-site farming

practices include soil disking, plowing, herbicide application, and regular anthropogenic maintenance and disturbance associated with ongoing management actions. Compacted dirt roads and brow ditches are included within this land cover type.

3.2.2 Stream Channel

Although not recognized by the Manual of California Vegetation, Online Edition (CNPS 2023b), or the Natural Community List (CDFW 2023d), stream channel is described by Oberbauer et al. (2008) as areas that exhibit ephemeral or intermittent flow and are barren or sparsely vegetated as a result of the scouring effects of floods or other anthropogenic causes. Within the Project site, stream channel is characterized by irrigation ditches that convey flows throughout active agricultural lands. These areas include irrigation ditches that are unvegetated or vegetated with ruderal species such as giant reed (*Arundo donax*), nettleleaf goosefoot (*Chenopodium murale*), and asthmaweed (*Erigeron bonariensis*).

3.2.3 Creosote Bush Scrub and Allscale Scrub Shrubland Alliances

Desert scrub habitats generally consist of open areas with vegetative cover less than or equal to 50% populated with scattered shrubs and evergreen or deciduous species. Within the Project site, creosote bush scrub and allscale scrub shrubland alliances are present in undeveloped areas that are absent of agricultural crops. These areas are primarily found around the southern Project boundaries.

Creosote bush scrub shrubland alliance is dominated by creosote (*Larrea tridentata*), which serves as a canopy in most settings. Interspaces typically include saltbush (*Atriplex* spp.), goldenheads (*Acamptopappus* spp.), ragweed (*Ambrosia* spp.), woolly brickellbush (*Brickellia incana*), brittlebush (*Encelia farinose*), California jointfir (*Ephedra californica*), Nevada jointfir (*Ephedra nevadensis*), and Anderson wolfberry (*Lycium andersonii*). Emergent trees may be present at low cover, including honey mesquite (*Prosopis glandulosa*) or Joshua tree (*Yucca brevifolia*) (CNPS 2023b).

Allscale scrub shrubland alliance is dominated by allscale (*Atriplex polycarpa*). Interspaces typically include white bursage (*Ambrosia dumosa*), cheesebush (*Ambrosia salsola*), four-winged saltbush (*Atriplex canescens*), red brome (*Bromus rubens*), smallseed sandmat (*Chamaesyce polycarpa*), bladderpod (*Cleome isomeris*), alkali goldenbush (*Isocoma acradenia*), and creosote. Emergent trees may be present at low cover, including honey mesquite (CNPS 2023b).

3.2.4 Urban/Developed

Urban/developed areas contain a mixture of constructed materials and vegetation. Within the Project site, urban/developed land takes the form of maintained roads for access to crops and irrigation canals, and two single-family homes in the center of two northern parcels.

3.2.5 Disturbed Habitat

Disturbed habitat are areas that have physical anthropogenic disturbance and, as a result, cannot be identified as a native or naturalized vegetation association. The existing vegetation is typically composed of non-native ornamental or exotic species. There can also be impacts from animal uses, grading, or repeated clearing for fuel management that leave the land incapable of providing a suitable or sustainable habitat for native species to persist (Oberbauer et al. 2008).

Within the Project site, disturbed habitat takes the form of areas along the fringes of agricultural fields and on the banks of irrigation canals that are largely devoid of vegetation.

3.2.6 Sensitive Vegetation Communities

No vegetation communities considered sensitive by CDFW (Rank S1, S2, or S3) were mapped within the Project site during the biological survey conducted by the Dudek biologist.

3.3 Flora

A total of 29 species of native or naturalized plants, 10 native (34%) and 19 non-native (66%), were recorded on the Project site (see Appendix B, Plant Compendium). The recorded native flora is likely limited due to the disturbed and agricultural setting of the site.

3.3.1 Special-Status Plant Species

For the purposes of this analysis, special-status species include those that are (1) listed, proposed for listing, or candidates for listing under FESA as threatened or endangered; (2) listed or candidates for listing under CESA as threatened or endangered; (3) a state fully protected species; (4) a CDFW Species of Special Concern; or (5) a species listed on the CNPS Inventory of Rare and Endangered Plants with a CRPR of 1B or 2B. Sensitive vegetation communities are those communities identified as high priority for inventory in CDFW's Natural Community List (CDFW 2023b), which is based on A Manual of California Vegetation, Second Edition (Sawyer et al. 2009), by a state rarity ranking of S1, S2, or S3.

Dudek performed a review of literature, existing documentation, and geographic information system (GIS) data to evaluate the potential for special-status plant species to occur within the Project site. Each special-status species was evaluated and given a rating based on its potential to occur (i.e., not expected, low, moderate, or high), taking into consideration the relative location to known occurrences, vegetation communities, and elevation. Based on the results of the literature review and database searches, 19 special-status plant species were identified as occurring within the region. Due to the current conditions present on site, including the vegetation communities; soils; elevation ranges; previous known locations documented in the CNDDB, by CNPS, and/or by USFWS; and current disturbance levels, none have moderate or high potential to occur. Four of these species have a low potential to occur on the Project site, which is generally not suitable due to the predominantly agricultural landscape. These four species are Abrams' spurge (*Euphorbia abramsiana*), Baja California ipomopsis (*Ipomopsis effusa*), brown turbans (*Malperia tenuis*), and hairy stickleaf (*Mentzelia hirsutissima*). The complete results of this potential to occur evaluation for special-status plants are included as Appendix C of this document. No special-status plant species were recorded within the Project site. No USFWS designated critical habitat for a federally listed plant species occurs within 1 mile of the Project site (USFWS 2023a).

3.4 Fauna

A total of 16 wildlife species were recorded within the Project site (Appendix D, Wildlife Compendium), all of which were birds: red-winged blackbird (*Agelaius phoeniceus*), Brewer's blackbird (*Euphagus cyanocephalus*), western meadowlark (*Sturnella neglecta*), American kestrel (*Falco sparverius*), western kingbird (*Tyrannus verticalis*), great

egret (*Ardea alba*), snowy egret (*Egretta thula*), common raven (*Corvus corax*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), burrowing owl (*Athene cunicularia*), great horned owl (*Bubo virginianus*), mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), greater roadrunner (*Geococcyx californianus*), northern harrier (*Circus hudsonius*), and cliff swallow (*Petrochelidon pyrrhonota*).

No active bird nests were observed within the Project site during the reconnaissance survey (conducted within the typical bird nesting season of February 1 through September 15) or the focused raptor and nesting bird survey conducted in April 2025; however, fallow fields, structures, and native vegetation within the Project site could support nesting birds.

No amphibian or aquatic species were observed; however, disturbance-tolerant species such as American bullfrog (*Lithobates catesbeianus*) could occur in the irrigation ditches. No reptile species were observed; however, common side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), and snakes occurring within the region could use the Project site.

3.4.1 Special-Status Wildlife Species

Dudek performed a review of literature, existing documentation, and GIS data to evaluate the potential for special-status wildlife species to occur within the Project site. Each special-status species was evaluated and given a rating based on its potential to occur (i.e., not expected, low, moderate, high, or observed), taking into consideration the relative location to known occurrences, vegetation communities, and geographic range. Based on the results of the literature review and database searches, 25 special-status wildlife species were identified as occurring within the region.

One candidate for state-listing species, burrowing owl, and no federally-listed special-status species were observed within the Project site. Based on results of the literature review, database searches, and site conditions, one state-listed special-status species, California black rail (*Laterallus jamaicensis coturniculus*), was determined to have a low potential to occur within the irrigation ditches on the Project site. All other listed species are not expected to occur.

One non-listed special-status species, northern harrier was observed within the Project site. Additionally, one candidate for listing under CESA, Crotch's bumble bee (*Bombus crotchii*), has a low potential to occur on the Project site as a transient during foraging, but is not expected to nest. Twelve non-listed special-status species—Colorado Desert fringe-toed lizard (*Uma notata*), mountain plover (*Charadrius montanus*), California black rail, Yuma Ridgway's rail (*Rallus obsoletus yumanensis*), LeConte's thrasher (*Toxostoma lecontei*), Colorado Valley woodrat (*Neotoma albigula venusta*), western yellow bat (*Dasypterus xanthinus*), western mastiff bat (*Eumops perotis californicus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), Palm Springs pocket mouse (*Perognathus longimembris bangsi*), American badger (*Taxidea taxus*), and desert kit fox (*Vulpes macrotis arsipus*)—were determined to have a low potential to occur, nest, or roost within the Project site.

The complete results of this potential-to-occur evaluation for special-status wildlife species are included as Appendix E of this document.

California Black Rail

California black rail is designated as state threatened and a fully protected species in California, and primarily occurs in California, Arizona, Baja California, and the Colorado River delta in Sonora. Suitable California black rail habitat generally includes salt marshes, freshwater marshes, and wet meadows. The species is typically identified in conjunction with common threesquare (*Schoenoplectus pungens*), arrowweed (*Pluchea sericea*), Fremont cottonwood (*Populus fremontii*), and seepwillow (*Baccharis salicifolia*). California black rails typically prey on small (less than 1 centimeter [0.39 inches]) invertebrates, chiefly insects, gleaned from marsh vegetation and mudflats; they also eat small seeds (Eddleman et al. 1994). No California black rails were detected on the Project site during the 2023 general biological survey. There are no CNDDB occurrences within the Project site, and no focused surveys were performed. The closest records are from approximately 2.7 miles north of the Project site in 2001 (CDFW 2023a). There is marginal suitable marsh habitat within some drainage canals that could potentially support foraging; however, the species is not expected to breed due to the limited suitable habitat on the Project site (Figures 3-1 and 3-2).

Burrowing Owl

Burrowing owl is a candidate for listing as endangered under CESA, as well as a California Species of Special Concern and Bird of Conservation Concern that inhabits much of California. Burrowing owls prefer open, dry, annual or perennial grasslands; deserts; and scrublands characterized by low-growing vegetation. They usually nest in old burrows of ground squirrels, badgers, or other small mammals, although they may dig their own burrows in soft soil. Within disturbed or developed areas, burrowing owls may also nest in burrow surrogates (e.g., rock cavities, pipes, culverts, debris piles). Prey consists mostly of insects, small mammals, reptiles, birds, and carrion.

During the four focused survey passes in 2023 and 2024 (see Table 1), approximately 89 burrowing owls were detected. Burrowing owls were observed at 40 burrows, and an additional 143 burrows were found to have suitable habitat for the species. Most detections were concentrated along roads within the northern and southern areas of the Project site (Figures 3-1 and 3-2). Additionally, burrowing owls were observed during raptor surveys in April 2025. Due to the close proximity and high density of burrowing owls and repeated observations in several areas, it is likely that some of the same individuals were documented across several survey passes, and that the number of burrowing owls that reside on site may be fewer. Furthermore, due to the close proximity of many burrows, it is likely that there are several well-established burrow systems/complexes on site that the owls regularly use.

Northern Harrier

Northern harrier is a California Species of Special Concern that inhabits much of California. Northern harriers use a wide variety of open habitats in California, including deserts, coastal sand dunes, pasturelands, croplands, dry plains, grasslands, estuaries, floodplains, and marshes (Smith et al. 2011). The species also forages over coastal sage scrub and other open scrub communities. Nesting areas are associated with marshes, pastures, grasslands, prairies, croplands, desert shrubsteppe, and riparian woodland (Smith et al. 2011). Undisturbed grasslands and wetlands that have dense vegetation have been documented to have higher nesting rates (USDA 2005). Winter habitats similarly include a variety of open habitats dominated by herbaceous cover. Northern harrier populations are most concentrated in areas with low vegetation and occur from sea level to 3,048 meters (10,000 feet) above mean sea level.

During June 2023 burrowing owl surveys and April 2025 raptor surveys, Dudek biologists observed one northern harrier foraging in agricultural fields on the Project site. The Project site contains potentially suitable nesting habitat within fallow agricultural fields where human-caused disturbance is infrequent.

Nesting Birds

The vegetation communities and open landscape within the Project site provide potentially suitable habitat for commonly occurring nesting birds, including Anna's hummingbird (*Calypte anna*), Gambel's quail (*Callipepla gambelii*), and Abert's towhee (*Melozone aberti*). Although no nests were identified during the site visit, suitable nesting habitat exists within the Project site and surrounding areas. No active nests were identified during the April 2025 raptor and nesting bird survey.

Roosting Bats

The bat roost assessment determined that the project site is primarily comprised of active agriculture fields and provides little to no suitable roosting habitat for bats. The project site lacks manmade structures that may provide suitable roosting sites for species that are known to roost in crevices of buildings and structures including big free-tailed bat (*Nyctinomops macrotis*) and crevice-roosting bats like western mastiff bat (*Eumops perotis californicus*) that inhabit rocky canyons and cliff faces. Dudek biologists observed several manmade structures immediately adjacent to the Project site, but no structures within the Project site. One of the adjacent structures appeared to be a dilapidated hay shelter; however, this structure was not insulated and did not provide suitable areas where crevice roosting bats could roost. The other manmade structures located adjacent to the Project site were within private property and consisted of occupied houses, which the biologists did not have legal access to survey.

Additionally, no rocky canyons or cliff faces occur on the Project site that could provide suitable roosting habitat for natural crevice roosting special-status bats such as western mastiff bat. The site is relatively flat and comprised of active agricultural fields which do not provide suitable habitat for other special-status bats known to occur in the region such as pocketed free-tailed bat (*Nyctinomops femorosaccus*), and western yellow bat (*Dasypterus xanthinus*), which are both California Species of Special Concern. As such, the pocketed free-tailed bat has a low potential to forage within the Project site, but is not expected to roost due to the lack of primary habitat present on the site. Finally, western yellow bat was determined to have a low potential to occur within the Project site due to a small area of desert riparian located along the southern border of the Project site. During the roost assessment of the site, Dudek biologists noted the presence of partially skirted palm trees within the southern portion of the Project site, which may provide suitable roosting sites for western yellow bats. Therefore, the emergence surveys were conducted at two locations within the Project site where partially skirted palm trees were observed. The emergence surveys were negative, as no bats were detected visually nor acoustically emerging from either of the survey locations. The locations of the emergence surveys are depicted in Figure 4, and photos of the survey sites are included in Appendix A.

The echolocation data collected from the five detectors deployed along the boundaries of the Project site determined that eight different bat species are present within the Project site. None of the special-status bat species listed above were acoustically detected on the Project site. However, one special-status species, pallid bat (*Antrozous pallidus*), was detected at two locations (BR-03 and BR-05) in limited numbers (less than 10 recordings). Table 3 below lists the bat species identified during passive acoustic surveys on the Project site, with the total number of bat passes positively identified for each species. Each bat pass represents an individual call file attributed to the species and does not represent the number of individual bats present, as one bat may record

multiple passes near the microphone. Instead, the number of bat passes represents the relative abundance and activity of the species on the Project site. A total of 834 total bat passes were recorded, which is a relatively low number, as active bat roosts can result in the detection of several thousands of bat passes per night for a single species. In addition, the lack of visual observations of bats during the roost assessment and emergence survey indicates that bats are likely not roosting on the Project site but instead are using portions of the site for foraging activities. The locations of the acoustic bat detectors are depicted in Figure 4.

Table 3. Bat Species Detected During Acoustic Surveys

Scientific Name	Common Name	Special Status	Number of Bat Passes
Antrozous pallidus	Pallid bat	SSC	9
Eptesicus fuscus	Big brown bat	-	17
Lasiurus cinereus	Hoary bat	-	4
Lasiurus noctivagans	Silver-haired bat	-	34
Myotis californicus	California myotis	-	7
Myotis yumanensis	Yuma myotis	-	15
Parastrellus hesperus	Canyon bat	-	483
Tadarida brasiliensis	Mexican free-tailed bat	-	265
		Total Bat Passes	834

After three nights of passive acoustic detection, the survey resulted in a total of 834 bat passes attributed to eight different bat species that are all common species except for pallid bat, which despite its SSC listing status is relatively common in desert environments. Canyon bat (*Parastrellus hesperus*) was the most abundant species detected on site which is a very common species, as well as Mexican free-tailed bat (*Tadarida brasiliensis*), which is the most common bat species in the western United States. The remaining bat species detected were in relatively low numbers (i.e. less than 50 passes), indicating only a few individuals of each species are actively foraging within the Project site. The total number of bat passes recorded indicates bats are likely foraging throughout the Project site but are not roosting on site, as active roosts can record several thousands of bat passes per night for a single species. The acoustic survey data corresponds to the roost assessment and emergence survey results of negative active roosts on site.

Critical Habitat

There is no USFWS designated critical habitat for federally listed wildlife species within 5 miles of the Project site (USFWS 2023a).

3.4.2 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the Imperial Valley is an important component of the Pacific Flyway, which is a major north/south passage for migratory birds. The Salton Sea is known to serve as a stopover for birds migrating along this flyway, with as many as 400 different bird species having been recorded. The Project site is situated approximately 23 miles southeast of the Salton Sea.

Because the Project site is primarily surrounded by, and includes extensive, active agriculture, the Project site has limited value as a potential wildlife corridor or habitat linkage for most wildlife species. The irrigation canals are not large enough to support large populations of birds, amphibians, or other wildlife species associated with water and riparian vegetation; however, it could provide stopover habitat for migratory species. The agriculture fields provide habitat for migratory birds that forage in open fields. As such, the Project site likely does not serve as an important wildlife corridor or habitat linkage for larger mammals or species that are limited to native habitats, but it does provide foraging or stopover habitat for migratory birds.

3.5 Jurisdictional Aquatic Resources

As stated in the Project's Aquatic Resources Delineation Report (Dudek 2024; Appendix F to this report), the Project site contains 24.79 acres of potentially jurisdictional non-wetland waters/ditches and their associated culverts of the United States and state regulated by USACE, RWQCB, and CDFW (Figures 5-1 through 5-10, Aquatic Resources Delineation). These non-wetland waters are characterized as Imperial Irrigation District irrigation canals that convey water throughout the Imperial Valley and are connected to a vast network of canals that source water from the Colorado River. Table 4 provides a detailed summary of aquatic resources delineated within the Project site.

Many smaller, likely non-jurisdictional concrete canals with gates exist within and along the boundaries of agricultural fields on the Project site. Although technically connected to potentially jurisdictional irrigation canals, they are constructed in uplands purely for the function of irrigating individual fields, and do not serve as critical conveyance pathways for regional irrigation like the larger, likely jurisdictional, irrigation canals.

When the field delineation occurred, surface water was present in all of the non-wetland waters/ditches mapped within the Project site; therefore, the waters onsite are likely considered relatively permanent waters. Based on site conditions observed in April 2023, the 24.74 acres of non-wetland waters/ditches and 0.05 acres of culverts connecting these non-wetland waters/ditches within the Project site contain surface water and include, or have a continuous surface connection to, the Fern Canal, Fig Canal, and the Westside Main Ditch. These have a continuous surface connection to the Salton Sea, a traditional navigable water (USACE 2023). Therefore, these features meet the definition of a 33 CFR, Section 328.3 (a)(3) waters. Accordingly, all non-wetland waters mapped in the review area may be subject to USACE regulation.

All of the features described in Table 4 have also been identified as potential waters of the state. These features are subject to regulation by the RWQCB under the Porter-Cologne Water Quality Control Act and CDFW under California Fish and Game Code Section 1600.

Table 4. Aquatic Resource Summary for the Project Site

Feature Name	Cowardin[1]	OHWM Indicators	Location	Acres/Linear Feet
Non-Wetland Waters (Below OHWM)				
Irrigation Ditch[2]	R4SBCx	BBS, occasional CVS and CVC	Throughout Project site (see Figures 5-1 through 5-10)	24.74/71,760
Culvert	N/A	N/A	Throughout review area (see Figures 5-1 through 5-10)	0.05/1,059
			Non-Wetland Waters Total	**24.79/72,819**

OHWM = ordinary high-water mark; R4SBCx = Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated; BBS = break in bank slope; CVS = change in vegetation species; CVC = change in vegetation cover

1 Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

2 Feature likely classified as seasonal "relatively permanent water" that flows for at least 3 months of the year, based on conditions observed during the delineation.

4 Project Impacts

This chapter contains the evaluation of potential environmental impacts associated with the proposed Project related to biological resources. It identifies the standards of significance used in evaluating the impacts, describes the methods used in conducting the analysis, and evaluates the proposed Project's impacts.

4.1 Explanation of Findings of Significance

The standards of significance used to evaluate the impacts of the proposed Project related to biological resources are based on Appendix G of the CEQA Guidelines, as listed below. A significant impact would occur if the proposed Project would:

Impact BIO-1. Result in a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Impact BIO-2. Result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Impact BIO-3. Result in a substantial adverse effect on state or federally protected wetlands, (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Impact BIO-4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Impact BIO-5. Result in conflicts with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance.

Impact BIO-6. Result in conflicts with the provision of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.2 Definition of Impacts

4.2.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction/decommissioning, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and/or wildlife species; (3) permanent loss of suitable habitat for special-status

species; and (4) permanent loss of wildlife movement and habitat connectivity. For the purposes of this analysis, all agricultural land is considered permanently impacted and there would be no temporary impacts.

4.2.2 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on biological resources outside the direct construction disturbance zone that may occur during construction and/or decommissioning (i.e., short-term construction-related indirect impacts) or later in time as a result of operation (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within a defined project site, but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects) that are adjacent to naturalized areas.

For the proposed Project, it is assumed that potential indirect impacts resulting from construction activities would include fugitive dust from earth-moving activities, leaks or spills from construction equipment, noise from construction activities, general human presence that may temporarily disrupt species and habitat vitality, and construction-related soil erosion and runoff that could affect downstream resources.

4.3 Impact Analysis

The acreage of direct impacts to vegetation communities and land covers is provided in Table 5. At this time, a final impact footprint has not been determined, and therefore this report assumes that all general agriculture, disturbed habitat, urban/developed, and Creosote Bush Scrub and Allscale Scrub Shrubland would be permanently impacted to provide the Project flexibility in its final design. Figures 6-1 and 6-2, Impacts, show the areas where impacts are anticipated to occur; this is subject to change based on final engineering design.

Table 5. Direct Impacts to Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover Type	Total Project Site Acreage
General Agriculture	1,590.38
Stream Channel	0
Creosote Bush Scrub and Allscale Scrub Shrubland	80.97
Urban/Developed	5.81
Disturbed Habitat	165.86
Grand Total[1]	**1,843.03**

Note:
[1] Totals may not sum due to rounding.

4.3.1 Impact BIO-1: Special-Status Species

4.3.1.1 Special-Status Plants

No special-status plant species were identified within the Project site. There are small pockets of creosote bush scrub and allscale scrub shrubland, but, overall, the Project site lacks suitable habitat or site characteristics

required for special-status plant species; thus, special-status plant species are either not expected to occur or have a low potential to occur within the Project site (see Appendix C). As such, there would be no anticipated direct and/or indirect impacts to special-status plant species.

4.3.1.2 Special-Status Wildlife

As described in Section 3.4.1, Special-Status Wildlife Species, burrowing owls and one northern harrier were observed on the Project site during biological surveys conducted in 2023, 2024 and 2025. Burrowing owl is a state candidate for listing as endangered, as well as a species of special concern under CDFW and a bird of conservation concern under USFWS, while northern harrier is a species of special concern under CDFW and a bird of conservation concern under USFWS. No special-status species have a high or moderate potential to occur. Six other special-status species—Colorado Desert fringe-toed lizard, Colorado Valley woodrat, Palm Springs pocket mouse, American badger, desert kit fox, and Crotch's bumble bee—have a low potential to occur on the Project site. Six special-status bird and bat species—mountain plover, California black rail, Yuma Ridgway's rail, western yellow bat, western mastiff bat, and pocketed free-tailed bat—have a low potential to forage on the Project site, but no potential to roost or nest. Only LeConte's thrasher has a low potential to forage and nest on the Project site. One special-status bat species, pallid bat, was detected in limited numbers on the Project site, suggesting the species forages on site but is not roosting.

4.3.1.3 Construction and Decommissioning Impacts

Construction

Implementation of Mitigation Measure (MM) BIO-1 through MM-BIO-4 would reduce impacts on burrowing owls to less than significant. Implementation of MM-BIO-5 and MM-BIO-6 would reduce impacts on migratory and non-migratory birds and nesting raptors to less than significant (see Chapter 5, Project Mitigation). The Project would not result in residual significant and unmitigable impacts related to biological resources.

Decommissioning/Restoration

Decommissioning activities would require construction vehicles to drive across the solar farm area, transmission line routes, and access roads, which could result in ground disturbance and transportation of invasive weeds. Mitigation measures required to reduce potential impacts on sensitive wildlife species (e.g., burrowing owls, nesting birds) would be applicable during the decommissioning phase of the Project. MM-BIO-1 through MM-BIO-6 would reduce decommissioning impacts to less than significant.

Burrowing Owl

Burrowing owls and active burrow sites were recorded on the Project site during the 2023 and 2024 burrowing owl surveys. Direct impacts to burrowing owls, including unintentional clearing or trampling of occupied habitat and/or destruction of burrowing owl dens, eggs, young, or adults, would be significant absent mitigation.

MM-BIO-1 (Burrowing Owl Mitigation) requires pre-construction clearance surveys to be conducted within 14 days prior to the start of ground disturbance by qualified and agency-approved biologists to determine the presence or absence of this species within the Project footprint. These surveys are necessary because burrowing owls may not use the same burrow every year. The identification of any active burrows would result in the establishment of

appropriate buffers and avoidance/minimization of impacts to burrowing owls. MM-BIO-2 (Burrowing Owl Habitat Compensation) establishes compensation for unavoidable direct impacts to burrowing owls. MM-BIO-3 (Worker Awareness Program) establishes an education program to provide information on burrowing owl biology, regulations, protection measures, and reporting procedures. MM-BIO-4 (Speed Limit) requires evaluation and implementation of best measures to reduce burrowing owl mortality along access roads and establishment of a speed limit. Construction-related direct impacts to burrowing owls would be less than significant with incorporation of MM-BIO-1, MM-BIO-2, MM-BIO-3, and MM-BIO-4.

Potential short-term, indirect impacts to burrowing owls include generation of fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can disrupt daily activities of wildlife and cause them to leave an area; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Given that the existing condition of the Project site is active agricultural lands, burrowing owls present within the Project site are likely accustomed to increased human presence and noise and vibration. MM-BIO-1 establishes measures at active burrows, including passive relocation, shelter in place (using hay bales to shelter the burrow from construction activities), and abandoned burrow destruction.

California Black Rail and Yuma Ridgeway's Rail

California black rail and Yuma Ridgeway's rail were not recorded during the 2023 reconnaissance survey; however, marginally suitable habitat occurs in small quantities within the irrigation canals on the Project site. Focused surveys were not conducted within the Project site; therefore, habitat suitability is conservatively based on the presence of a small amount of aquatic vegetation within the irrigation canals. Direct impacts to California black rail or Yuma Ridgeway's rail, including destruction of nests, eggs, and/or young if one or both species nest on site, would be significant absent mitigation. However, the two species are not expected to breed in the canals due to the limited suitable habitat available.

Additionally, the Project would avoid all direct impacts to the irrigation canals throughout the Project site, and, therefore, potential construction-related direct impacts to California black rails and Yuma Ridgeway's rails, which are fully protected species, would be avoided. MM-BIO-5 (Migratory and Non-Migratory Bird Construction and Mitigation Measures) would require nesting bird pre-construction surveys to be completed if construction occurs during the nesting bird season (February 1 through September 15). These surveys would identify any California black rails and Yuma Ridgeway's rails within the Project site, establish appropriate buffers, and avoid impacts to California black rails and Yuma Ridgeway's rails. Construction-related direct impacts to California black rails and Yuma Ridgeway's rails would be less than significant with incorporation of MM-BIO-5.

Potential short-term, indirect impacts to California black rails and Yuma Ridgeway's rails include generation of fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can disrupt daily activities of wildlife and cause them to leave an area; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Given that the existing condition of the Project site is active agricultural lands, California black rails and Yuma Ridgeway's rails potentially present are likely accustomed to increased human presence and noise and vibration. MM-BIO-3 would help to ensure that no impacts would occur to California black rails and Yuma Ridgeway's rails. With implementation of these measures, potential short-term indirect impacts from construction/decommissioning activities would be less than significant.

Northern Harrier

One northern harrier was recorded foraging during the June 2023 burrowing owl survey. Direct impacts to northern harriers, including destruction of nests, eggs, and/or young if they nest on site, would be significant absent mitigation.

MM-BIO-5 would require nesting bird pre-construction surveys if construction occurs during the nesting bird season (February 1 through September 15). These surveys would identify any northern harriers, which is protected in California, within the Project site, establish appropriate buffers, and avoid impacts to northern harriers. Construction-related direct impacts to northern harriers would be less than significant with incorporation of MM-BIO-5.

Potential short-term, indirect impacts to northern harriers include generation of fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can disrupt daily activities of wildlife and cause them to leave an area; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Given that the existing condition of the Project site is active agricultural lands, northern harriers potentially present within the Project site are likely accustomed to increased human presence and noise and vibration. MM-BIO-3 (Worker Environmental Awareness Program and Ongoing Training) would help to ensure that no impacts occur to northern harriers. With implementation of these measures, potential short-term indirect impacts from construction/decommissioning activities would be less than significant.

Nesting Birds

The Project site has the potential to support avian nests, which are protected under the Migratory Bird Treaty Act and the California Fish and Game Code (Section 3503), under which it is unlawful to “take, possess, or needlessly destroy” avian nests or eggs. Thus, potentially significant impacts could occur if vegetation clearing is undertaken during the breeding season (February 1 through September 15). Removal of habitat would occur outside of the breeding season. If vegetation removal cannot occur outside of the breeding season, MM-BIO-5 would be implemented to require a pre-construction nesting bird survey, thus addressing direct and indirect impacts to nesting birds. Construction-related direct impacts to nesting birds would be less than significant with incorporation of MM-BIO-5.

Potential short-term, indirect impacts to nesting birds include generation of fugitive dust that can degrade habitat and result in health implications for wildlife species; noise and vibration that can stress wildlife species or cause them to leave an area of otherwise suitable habitat; increased human presence, which can disrupt daily activities of wildlife and cause them to leave an area; and release of chemical pollutants, such as from oil leaks from construction vehicles and machinery. Given that the existing condition of the Project site is active agricultural lands, nesting birds potentially present within the Project site are likely accustomed to increased human presence and noise and vibration. MM-BIO-3 would help to ensure that no impacts occur to nesting birds. With implementation of these measures, potential short-term indirect impacts from construction/decommissioning activities would be less than significant.

4.3.1.4 Operational Impacts

Potential impacts during Project operation could result from lighting, noise, dust, increased human activity, collision hazards, and altered hydrology generated from the solar and energy storage facilities.

Lighting

All permanent lighting would be of low intensity and in compliance with local, applicable regulations. Lighting would be directed away from the public right-of-way and pointed inward toward the solar energy facility and may utilize directional hoods or shades as needed to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes would have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light would be directed onto the facility, not onto adjacent habitat, and because the lights would not be on continuously. Thus, the lighting would not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

Noise

The Project site is actively farmed and there are solar facilities operating adjacent to the Project site. No equipment or components are anticipated to produce noise that would exceed ambient noise in the vicinity. No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat would not be substantially affected.

Dust

Dust from vehicles during Project operation could impact suitable habitat for special-status species. The Project site is actively farmed and there are active agricultural fields and solar facilities operating adjacent to the Project site. No equipment or components are anticipated to produce dust that would exceed what currently exists in the vicinity. Furthermore, with implementation of MM-BIO-4 (Speed Limits), which requires reduced speed limits, potential operational impacts from dust would be reduced to less than significant.

Increased Human Activity

Increased human activity can deter wildlife from using habitat areas near the Project and increase the potential for vehicle collisions. With implementation of MM-BIO-3, which requires environmental education for new workers at the Project site, potential operation impacts from increased human activity would be minimized. With implementation of MM-BIO-3, potential impacts to special-status species from increased human activity would be reduced to less than significant.

Collision Hazards

The Project site is approximately 23 miles south of the Salton Sea, a major stopover location for migratory birds. The Project could potentially increase the risk of collisions due to sky reflection (or “pseudo-lake effect”). Although avian collisions with towers and structures have been well documented, there are few published papers that study the possibility that large areas of solar PV panels in the desert environment may mimic water bodies and inadvertently attract migrating or dispersing wetland bird species. There is currently insufficient research to assess the magnitude or likely risk associated with collisions with solar fields. The solar PV modules would be coated to be non-reflective and are designed to be highly absorptive of all light that strikes their glass surfaces. Based on the evidence available—non-reflective design of the solar panels, typical migration patterns, comparatively few documented deaths—glare and pseudo-lake effect are not expected to result in significant impacts to migrating or local avian species.

Potential indirect impacts associated with increased human activities/collisions are a potentially significant impact. MM-BIO-3 provides for worker training for operational staff to minimize impacts associated with increased human activity. MM-BIO-4 imposes speed limits on site and limits allowed activities to reduce effects from increased human activity.

Implementation of MM-BIO-3 and MM-BIO-4 would reduce potential operational impacts to less than significant.

Altered Hydrology

The proposed Project would avoid all irrigation canals, and therefore is not expected to impact regional hydrology. Furthermore, hydrology in the region has been extensively modified to convey flows to agricultural farms. Operation of the proposed Project is not expected to alter the topography such that there would be downstream or offsite effects to hydrology.

4.3.2 Impact BIO-2: Sensitive Vegetation Communities

No special-status vegetation communities occur within the Project site. Thus, implementation of the proposed Project would not result in direct or indirect impacts to special-status vegetation communities. As such, no avoidance or compensatory mitigation measures are required.

4.3.3 Impact BIO-3: State or Federally Protected Wetlands

The Project site contains 21.1 acres of potentially jurisdictional non-wetland waters of the United States and state. While it is assumed that the solar field within the Project site would avoid all direct impacts to Imperial Irrigation District irrigation canals, the smaller canals along the boundaries of agricultural fields on the Project site may be impacted. The Project is expected to comply with the relevant laws that apply to potentially jurisdictional waters and notify the respective agencies of the impacts to determine the jurisdictional status and the need for permits to be acquired for impacts. If permits are required, it is expected that avoidance and minimization measures would be included in the conditions of the permits. All poles associated with the collector areas would be sited outside of non-wetland waters. Therefore, there would be no direct impacts to jurisdictional waters, and compensatory mitigation is not required.

Potential short-term, indirect impacts to jurisdictional waters could include generation of fugitive dust and the introduction of chemical pollutants. MM-BIO-3 (Worker Environmental Awareness Program and Ongoing Training) would further ensure no impacts to jurisdictional waters. With implementation of these measures, potential short-term indirect impacts from construction activities would be less than significant.

4.3.4 Impact BIO-4: Wildlife Corridors and Habitat Linkages

The Project is not likely to have direct or indirect impacts on movement of any native resident or migratory fish or wildlife species regionally or locally. The Project site is approximately 23 miles southeast of the Salton Sea and would not affect its use by migratory birds. Locally, the Project site is primarily surrounded by and includes extensive historical (NETR 2023) and present-day agricultural practices (see Figures 3-1 and 3-2). As such, the site has limited value as a potential wildlife corridor or habitat linkage for fish and wildlife species, and likely does not serve as an important wildlife corridor. Impacts to wildlife movement would be less than significant.

4.3.5 Impact BIO-5: Local Policies or Ordinances

The Imperial County General Plan Conservation and Open Space Element establishes goals and objectives, and implementation programs and policies related to the protection of threatened and endangered plant and wildlife species, and cooperation with federal, state, and local agencies (County of Imperial 2016). The Project is consistent with the Imperial County General Plan biological resource policies (see Tables 6 and 7). Therefore, the Project would not conflict with local policies or ordinances protecting biological resources.

Table 6. Imperial County General Plan Conservation of Biological Resources Goals and Objectives

Objective 2.1	Designate critical habitats for federally and state-listed species.
Objective 2.2	Develop management programs, including preservation of habitat for flat-tailed horned lizard, desert pupfish, and burrowing owl.
Objective 2.3	Support investigation of long-term climate change effects on biological resources.
Objective 2.4	Use the CEQA and NEPA [National Environmental Policy Act] process to identify, conserve, and restore sensitive vegetation and wildlife resources.
Objective 2.5	Give conservation of sensitive species and habitat a high priority in County Park acquisition and development programs.
Objective 2.6	Attempt to identify, reduce, and eliminate all forms of pollution, including air, noise, soil, and water.

Source: County of Imperial 2016

Table 7. Imperial County General Plan Consistency Analysis

General Plan Policies and Programs*	Project Consistency	Analysis
Policy 1. Provide a framework for the conservation and enhancement of natural and created open space which provides habitat values.	Yes, with mitigation	Mitigation Measure (MM) BIO-1 through MM-BIO-6 would reduce impacts to special-status species, sensitive vegetation communities, and jurisdictional resources to less than significant. The proposed Project would be in compliance with federal and state laws.
1a. Identify Resource Areas to conserve and enhance native vegetation and wildlife. These areas include agency designated sensitive habitats with USFWS, BLM Areas of Critical Environmental Concern (ACECs), and CDFW. These designated lands are designed for the protection and perpetuation of rare, endangered, and threatened species and areas important for scientific study.	Yes	There would be no impacts to jurisdictional waters or native vegetation that are important resource areas for native plants and wildlife.
1b. Projects within or in the vicinity of a Resource Area should be designed to minimize adverse impacts on the biological resources it was created to protect.	Yes, with mitigation	MM-BIO-1 through MM-BIO-6 would reduce impacts to special-status species, sensitive vegetation communities, and

Table 7. Imperial County General Plan Consistency Analysis

General Plan Policies and Programs*	Project Consistency	Analysis
		jurisdictional resources to less than significant. The proposed Project would be in compliance with federal and state laws.
1c. Accept donations of land which have high wildlife value. Where appropriate, Imperial County shall attempt to exchange donated lands of high wildlife value with other State, Federal, or other resource agencies equipped to protect and manage such lands for other lands more appropriate to County needs.	N/A	No land would be exchanged or donated as part of the proposed Project.
1d. Develop an environmental mitigation program that protects and restores Salton Sea wildlife habitats as offsets to biological disturbances identified through the CEQA review process for development projects. The program would allow the County and/or Salton Sea JPA to restore habitat through financing mechanisms including land banks and/or direct financial contributions from the developers to mitigate their impacts	N/A	There would be no impacts to jurisdictional waters.
1e. Conserve the native habitat of sensitive plants and animals through the dedication of open space easements, or other means that will ensure their long-term protection and survival. Such easements may preclude the erecting of any structures (temporary or permanent), vegetation removal, or any other activities. These dedicated open space easements would also serve to reduce potential indirect impacts to sensitive biological resources that may result from human activities associated with future developments	N/A	There would be no impacts to native vegetation that are important resource areas for native plants and wildlife.
1f. Areas designated for biological open space conservation shall include buffers, which provide important breeding and foraging habitats for native and migratory birds and animals. Such buffers shall serve to separate future development from adjacent native habitat areas to ensure the perpetual regeneration of these habitats	N/A	There would be no impacts to native vegetation that are important resource areas for native plants and wildlife.
1g. Protect riparian habitat and other types of wetlands from loss or modification by dedicating open space easements with adequate buffer zones, and by other means to avoid impacts from adjacent land uses. Road crossings or other disturbances of riparian habitat should be minimized and only allowed when alternatives have been considered and determined infeasible.	Yes	There would be no impacts to jurisdictional waters, riparian habitats, or wetlands.

Table 7. Imperial County General Plan Consistency Analysis

General Plan Policies and Programs*	Project Consistency	Analysis
1h. Rock outcrops which serve as significant boulder habitat for sensitive biological resources should be considered within open space easements.	N/A	There are no rock outcrops within the Project site.
1i. Preserve existing California fan palms in natural settings and other individual specimen trees which contribute to the community character and provide wildlife habitat.	N/A	There are no California fan palms (*Washingtonia filifera*) within the Project site.
1j. Preserve and encourage the open space designation of wildlife corridors which are essential to the long-term viability of wildlife populations.	N/A	There would be no impacts to native vegetation that are important resource areas for native plants and wildlife.
1k. Integrate open space dedications in private developments with surrounding uses to maximize a functional open space/recreation and wildlife management system.	N/A	There would be no private development as part of the proposed Project.

* **Source:** County of Imperial 2016
N/A = not applicable

4.3.6 Impact BIO-6: Habitat Conservation Plans

No adopted Habitat Conservation Plan area overlaps with the Project site. Thus, implementation of the proposed Project would not result in direct or indirect impacts to any Habitat Conservation Plan. As such, no avoidance or compensatory mitigation measures are required.

5 Project Mitigation

MM-BIO-1 Burrowing Owl Mitigation

Burrowing owl currently identified on site shall be mitigated per the guidance of the Staff Report on Burrowing Owl Mitigation (CDFG, 2012) such that (a) permanent impacts to nesting, occupied and satellite burrows and/or burrowing owl habitat such that the habitat acreage, number of burrows and burrowing owls impacted are replaced with permanent conservation of similar vegetation communities (grassland, scrublands, desert, urban, and agriculture) to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area, and (b) sufficiently large acreage, and presence of fossorial mammals.

Focused Burrowing Owl Surveys

To avoid construction-level impacts to unidentified burrowing owls on-site, qualified biologists shall conduct focused burrowing owl surveys during the breeding and non-breeding season in accordance with the California Department of Fish and Wildlife's (CDFW) 2012 Staff Report on Burrowing Owl Mitigation. The survey shall cover the Project site and a 500-foot buffer, where legally accessible. The Project applicant shall coordinate with CDFW in the preparation of a Burrowing Owl Protection and Mitigation Plan (see below) to allow commencement of disturbance activities on site. A pre-construction survey shall be conducted within 14 days prior to the start of construction activities (see below).

Pre-Construction Survey and Avoidance Measures

Depending on the Project activity type and associated disturbance, an avoidance buffer distance of 50 meters (165 feet) to 100 meters (330 feet) during the non-breeding season (September through January) and 100 meters (330 feet) t0 250 meters (825 feet) during the breeding season (February through August) shall be maintained between active burrows and construction activities. A Qualified Biologist shall monitor the burrowing owls for any sign of distress and adjust the buffers as necessary to ensure no take occurs.

If construction is to begin during the breeding season, mitigation measures shall be implemented prior to February 1 to discourage nesting by burrowing owls within the Project footprint. As construction continues, any area where owls are sighted shall be subject to frequent surveys by the qualified biologist for burrows before the breeding season begins so that owls can be properly relocated before nesting occurs.

Pre-construction take avoidance surveys for this species shall be conducted within 14 days prior to the start of ground disturbance and 24 hours prior to construction to determine the presence or absence of this species within the Project footprint. A report shall be submitted by a qualified and agency-approved biologist. The Project footprint shall be clearly demarcated in the field by the Project engineers and biologist prior to the commencement of the pre-construction take avoidance surveys. The surveys shall follow the protocols provided in the Burrowing Owl Survey Protocol and Mitigation

Guidelines, prepared by the California Burrowing Owl Consortium, and following the guidance of the Staff Report on Burrowing Owl Mitigation (CDFG, 2012).

Burrowing Owl Protection and Mitigation Plan

If active burrows are present within the Project footprint and avoidance is infeasible, the following mitigation measures shall be implemented. If approved by CDFW through the Burrowing Owl Protection and Mitigation Plan (described below), passive relocation methods are to be used by the qualified biologist to move the owls out of the impact zone. Passive relocation shall only be done in the non-breeding season, where resident owls have not yet begun egg laying or incubation, or where the juveniles are foraging independently and capable of independent survival, in accordance with the guidelines found in the Imperial Irrigation District Artificial Burrow Installation Manual. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow but will exclude any animals from re-entering the burrow. If burrowing owls exhibit sign of stress in attempting to re-enter the burrow, the one-way-door shall be removed to prevent take of the individual. A period of at least 1 week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. Only burrows that will be directly impacted by the Project shall then be excavated and filled in to prevent their reuse. Off-site "replacement burrow site(s)" must consist of a minimum of two suitable, unoccupied burrows for every burrowing owl or pair to be passively relocated.

As the Project construction schedule and details are finalized, a qualified biologist shall prepare a Burrowing Owl Protection and Mitigation Plan that will detail the approved, site-specific methodology proposed to avoid, minimize and mitigate impacts on this species. Passive relocation, destruction of burrows, construction of artificial burrows, and a Forage Habitat Plan shall only be completed upon prior approval by and in cooperation with CDFW. The Burrowing Owl Protection and Mitigation Plan shall include success criteria, remedial measures, active monitoring, and an annual report to CDFW, and shall be funded by the Project applicant.

For the purposes of this mitigation measure, a "qualified biologist" is a biologist who meets the requirements set forth in CDFW's 2012 Staff Report on Burrowing Owl Mitigation and approved by CDFW.

MM-BIO-2 Burrowing Owl Habitat Compensation. The California Department of Fish and Wildlife's (CDFW) 2012 Staff Report on Burrowing Owl Mitigation requires the acquisition and protection of replacement foraging habitat per pair or unpaired resident bird to offset the loss of foraging and burrow habitat on the Project site.

Mitigation shall include off-site preservation of the required amount of foraging habitat through a CDFW-approved conservation easement, or an in-lieu fee in an amount approved by CDFW that is sufficient to acquire such conservation easements, or some combination of the two.

MM-BIO-3 Worker Awareness Program and Ongoing Training. Prior to Project initiation, a Worker Environmental Awareness Program shall be developed and implemented by a qualified biologist and shall be available in both English and Spanish. Wallet-sized cards summarizing this information

shall be provided to all construction, operation, and maintenance personnel. The education program shall include the following aspects:

- Biology and status of burrowing owl.
- California Department of Fish and Wildlife/U.S. Fish and Wildlife Service regulations.
- Protection measures designed to reduce potential impacts on the species.
- The function of flagging designated authorized work areas.
- Reporting procedures to be used if a burrowing owl (dead, alive, injured) is encountered in the field.

MM-BIO-4 Speed Limit. During construction, the designated biologist or biological monitor(s) shall evaluate and implement best measures to reduce burrowing owl mortality along access roads. A speed limit of 15 miles per hour shall be enforced on all access roads. In addition, all vehicles required for operations and maintenance must remain on designated access/maintenance roads.

MM-BIO-5 Migratory Birds and Other Sensitive Non-Migratory Bird Species. To reduce the potential indirect impact on migratory birds, bats, and raptors, an Avian and Bat Protection Plan (ABPP) shall be prepared following the U.S. Fish and Wildlife Service's guidelines and implemented by the Project applicant. This ABPP shall outline conservation measures for construction, operation, and maintenance activities that might reduce potential impacts on bird populations and shall be developed by the Project applicant in conjunction with the County of Imperial.

Construction conservation measures to be incorporated into the ABPP shall include the following:

- Minimizing disturbance to vegetation to the maximum extent practicable.
- Clearing vegetation outside of the breeding season. If construction occurs between February 1 and September 15, an approved biologist shall conduct a pre-construction clearance survey for nesting birds in suitable nesting habitat that occurs within the Project footprint. Pre-construction nesting surveys will identify any active migratory bird (and other sensitive non-migratory bird) nests. Direct impact on any active migratory bird nest shall be avoided.
- Minimizing wildfire potential.
- Minimizing activities that attract prey and predators.
- Controlling non-native plants.

Operations and maintenance conservation measures to be incorporated into the ABPP shall include the following:

- Incorporating the Avian Powerline Interaction Committee's 2012 guidelines for overhead utilities to minimize avian collisions with transmission facilities.
- Minimizing noise.
- Minimizing use of outdoor lighting.

MM-BIO-6 Raptor and Active Raptor Nest Avoidance. Raptors and active raptor nests are protected under California Fish and Game Code Sections 3503.5, 3503, 3513. To prevent direct and indirect noise impact on nesting raptors, such as red-tailed hawk, the following measures shall be implemented:

- Initial grading and construction within the Project site shall take place outside the raptors' breeding season of February 1 through July 15.
- If construction occurs between February 1 and July 15, a qualified biologist shall conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees and transmission towers) that occurs within 500 feet of the Project site. If any active raptor nest is located, the nest area shall be flagged, and a buffer zone delineated, flagged, or otherwise marked. No work activity shall occur within this buffer area until a qualified biologist determines that the fledglings are independent of the nest.

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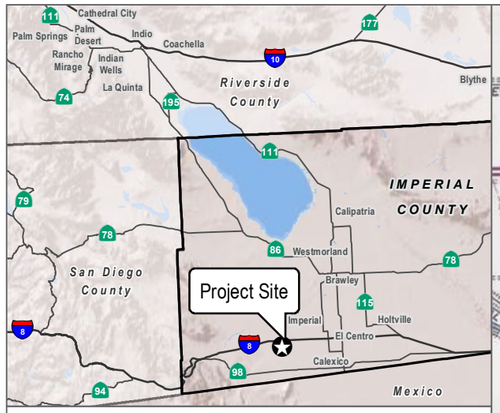

- Project Boundary
- Gen-Tie Line
- Alternative Gen-Tie Line
- Project BESS
- Project Substation
- Switchyard

SOURCE: USGS 7.5-Minute Series Seeley, Plaster City, Mount Signal, Yuha Basin Quadrangles, Avantus 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

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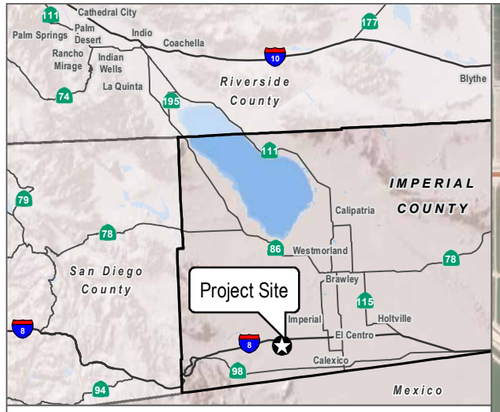

- Project Boundary
- Gen-Tie Line
- Alternative Gen-Tie Line
- Project BESS
- Project Substation
- Switchyard

Soils

- 102: BADLAND
- 107: GLENBAR COMPLEX
- 110: HOLTVILLE SILTY CLAY, WET
- 114: IMPERIAL SILTY CLAY, WET
- 115: IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES
- 118: INDIO LOAM, WET
- 119: INDIO-VINT COMPLEX
- 121: MELOLAND FINE SAND
- 122: MELOLAND VERY FINE SANDY LOAM, WET
- 123: MELOLAND AND HOLTVILLE LOAMS, WET
- 126: NILAND FINE SAND
- 130: ROSITAS SAND, 0 TO 2 PERCENT SLOPES
- 132: ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES
- 135: ROSITAS FINE SAND, WET, 0 TO 2 PERCENT SLOPES
- 142: VINT LOAMY VERY FINE SAND, WET
- 144: VINT AND INDIO VERY FINE SANDY LOAMS, WET
- 145: WATER

SOURCE: Maxar 2023; Imperial County 2023; USDA SSURGO 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Soils

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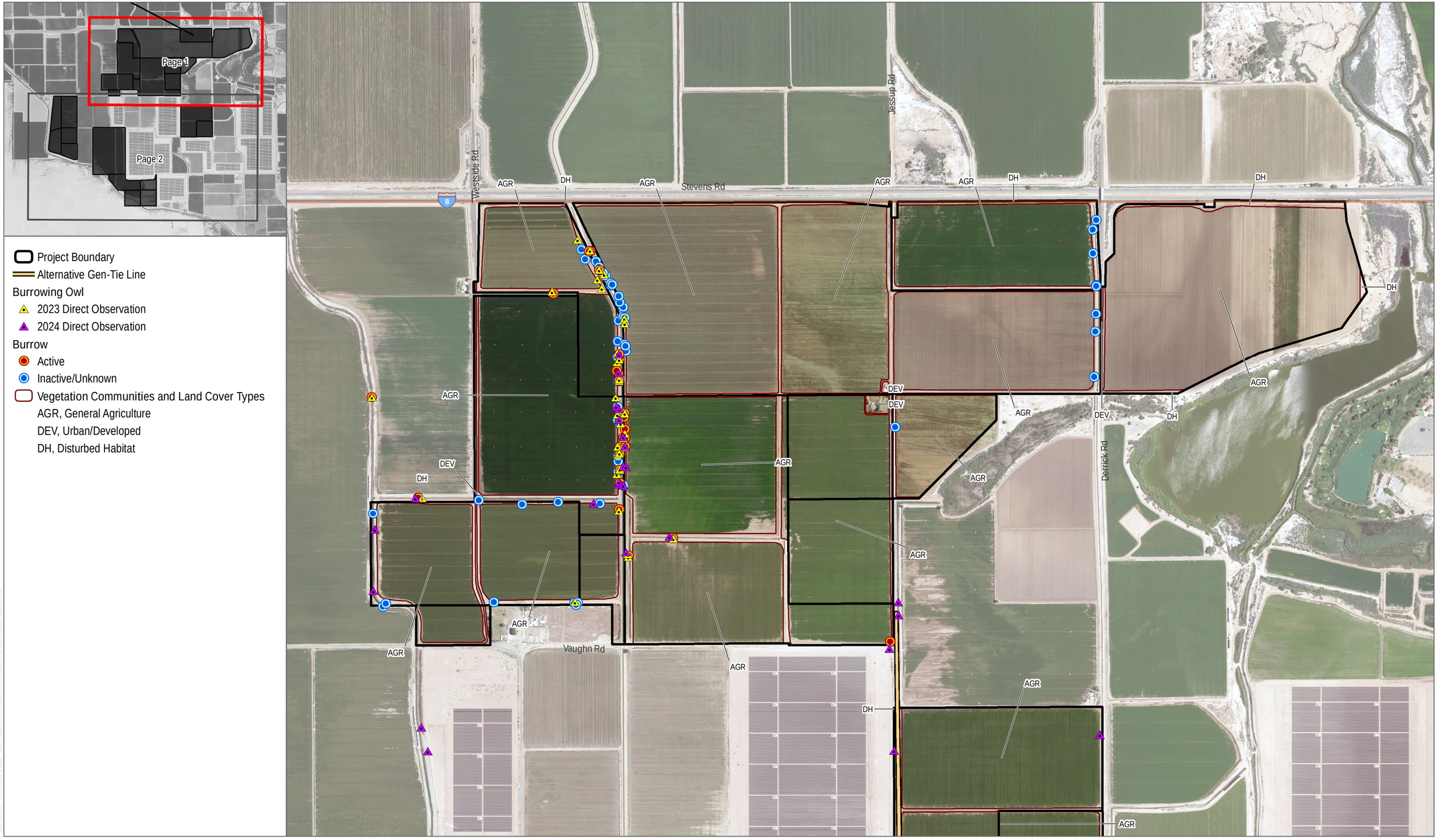

SOURCE: Maxar 2023; Avantus 2023

DUDEK

0 550 1,100 Feet

FIGURE 3-1

Biological Resources

P# 15207

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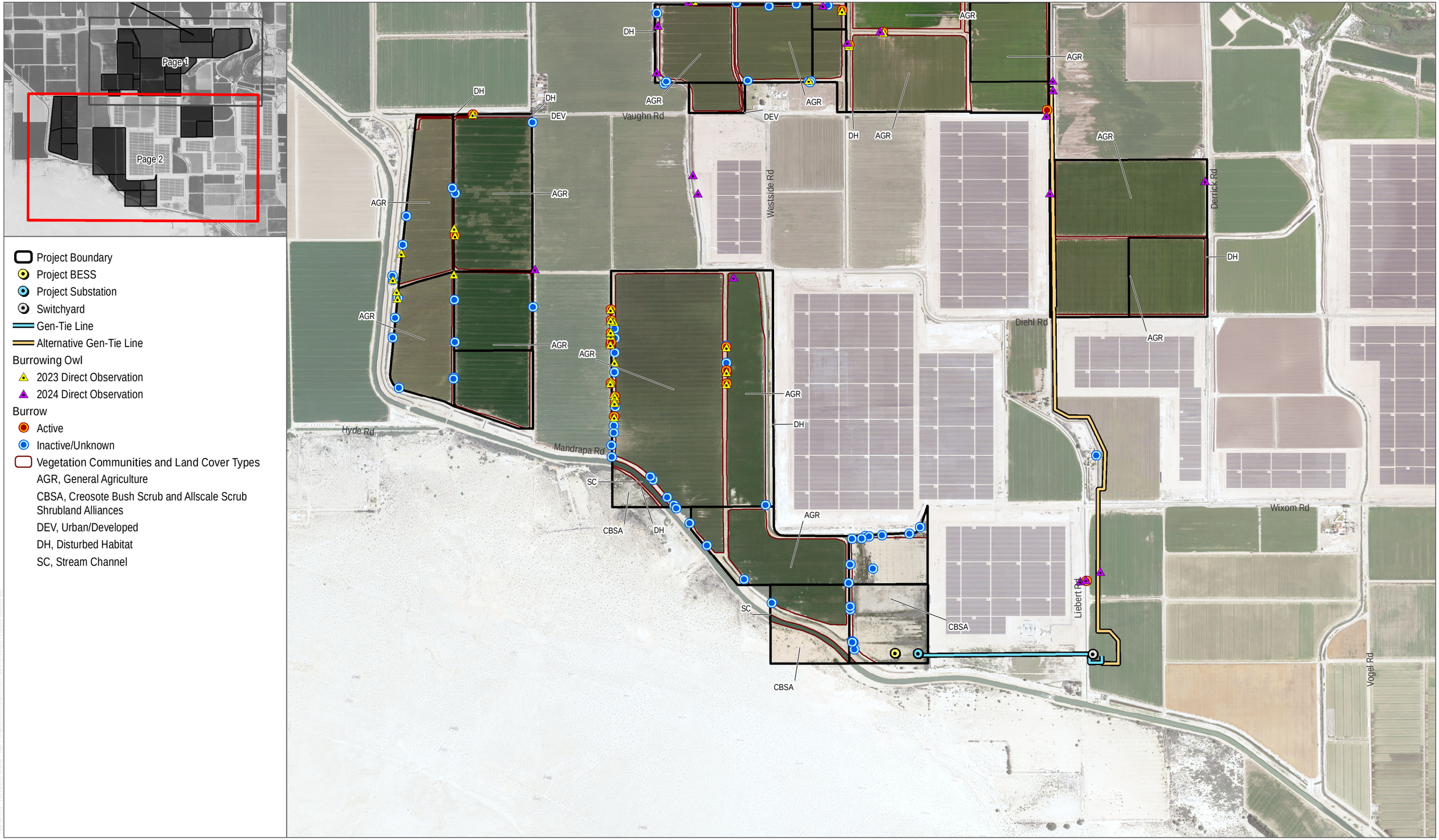

SOURCE: Maxar 2023; Avantus 2023

DUDEK

0 750 1,500 Feet

FIGURE 3-2

Biological Resources

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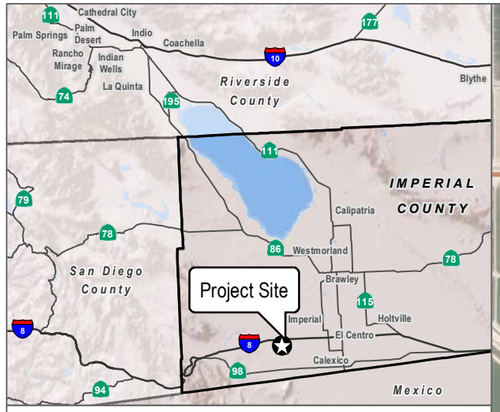

- Project Boundary
- Project BESS
- Project Substation
- Switchyard
- Gen-Tie Line
- Alternative Gen-Tie Line

Bat Survey Results

- Acoustic Detector
- Emergence Survey Location

SOURCE: Maxar 2023; Imperial County 2023; USDA SSURGO 2023; Avantus 2023

DUDEK

0 1,000 2,000 Feet

FIGURE 4

Bat Survey Results

P# 15207

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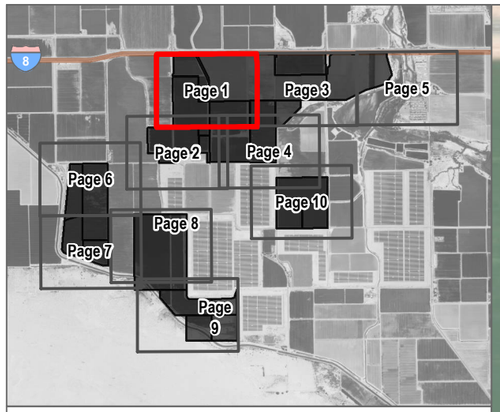


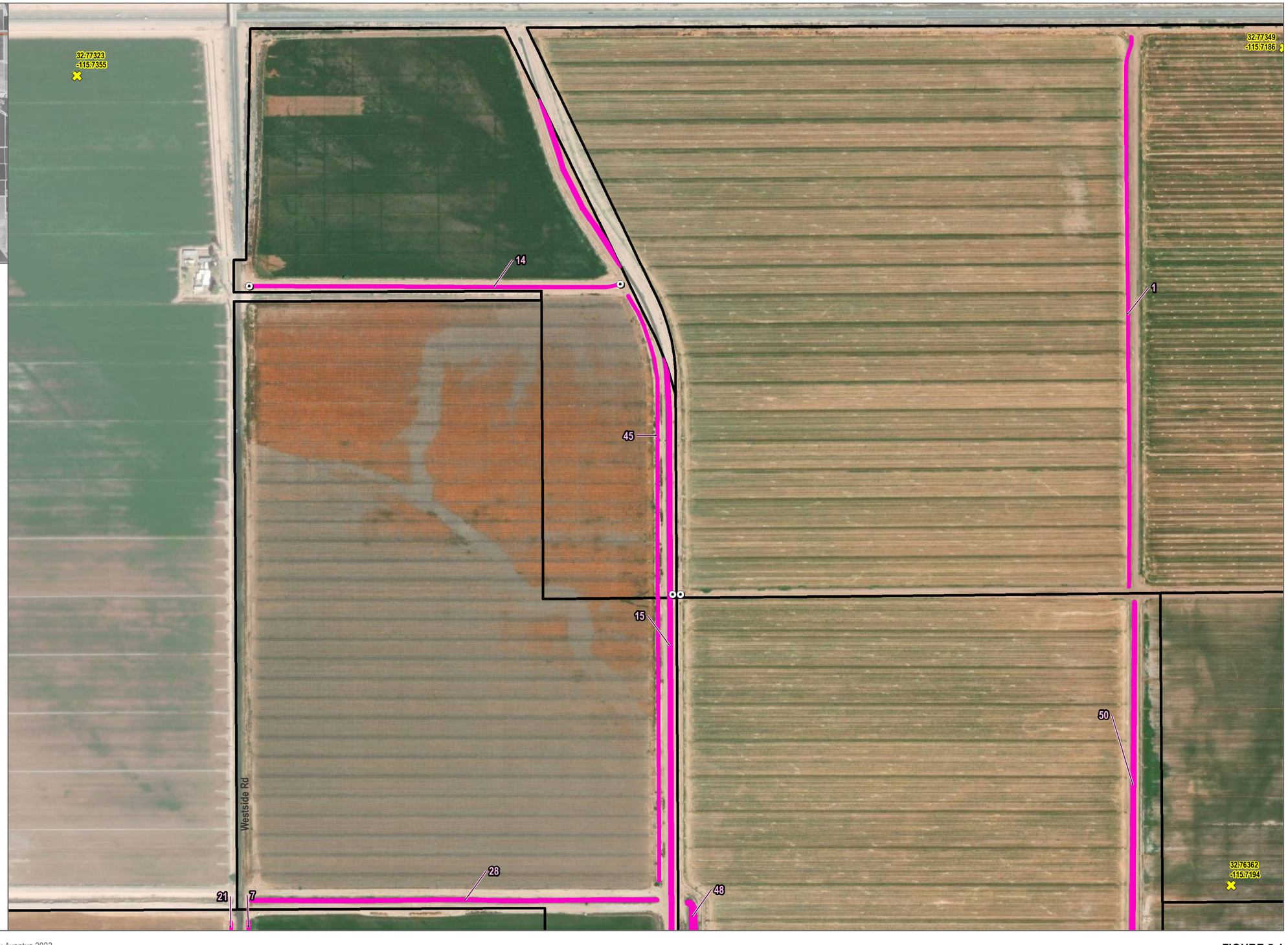
Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-1

Aquatic Resources Delineation

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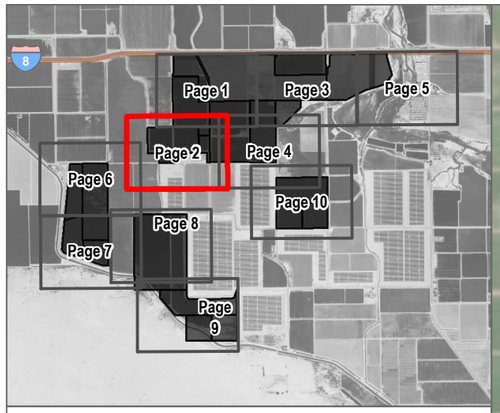


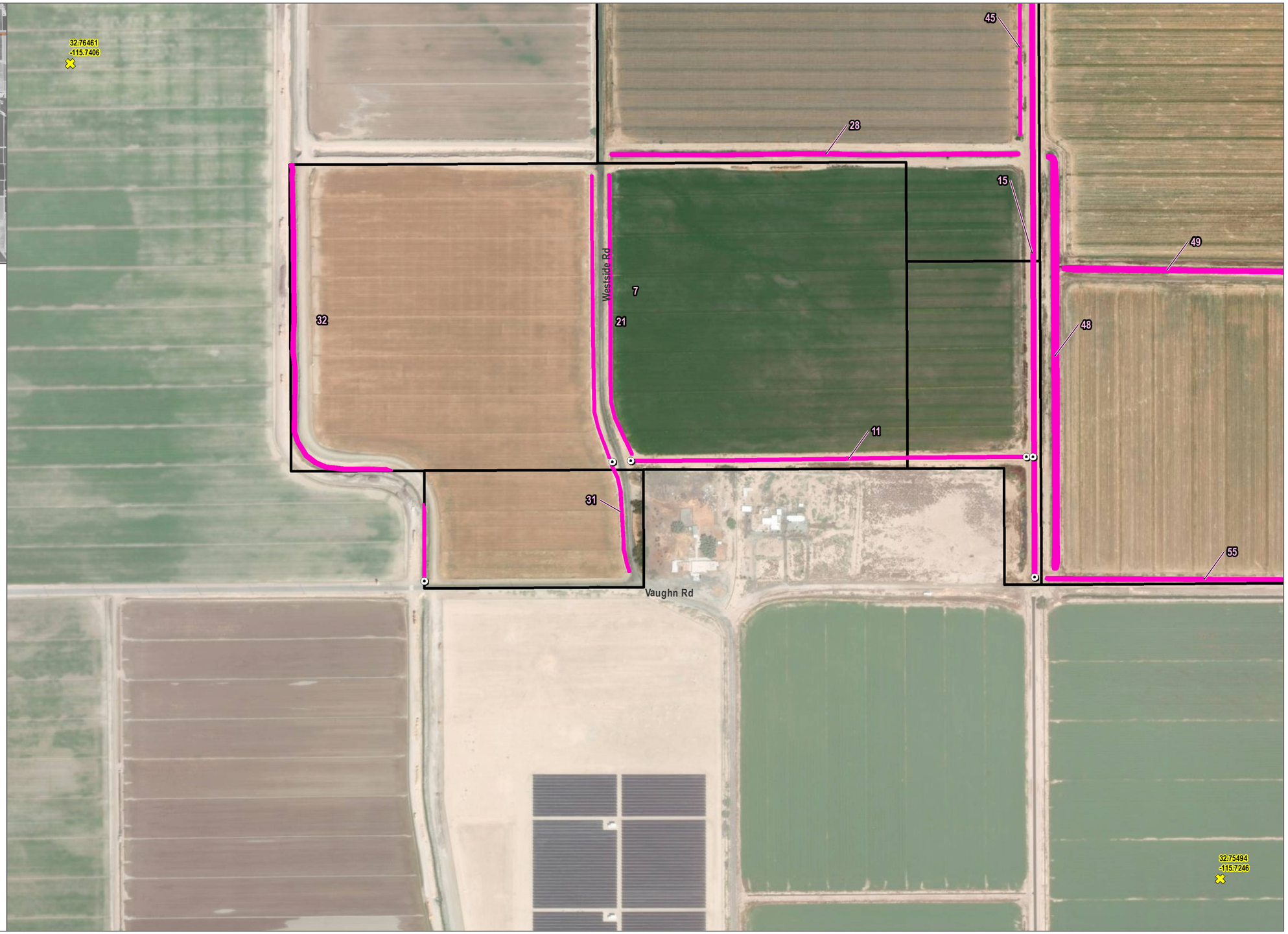
Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-2

Aquatic Resources Delineation

P# 15207

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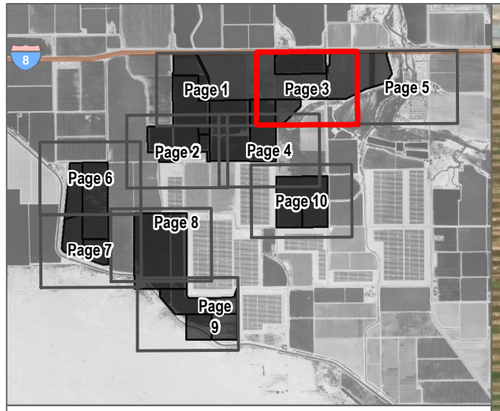


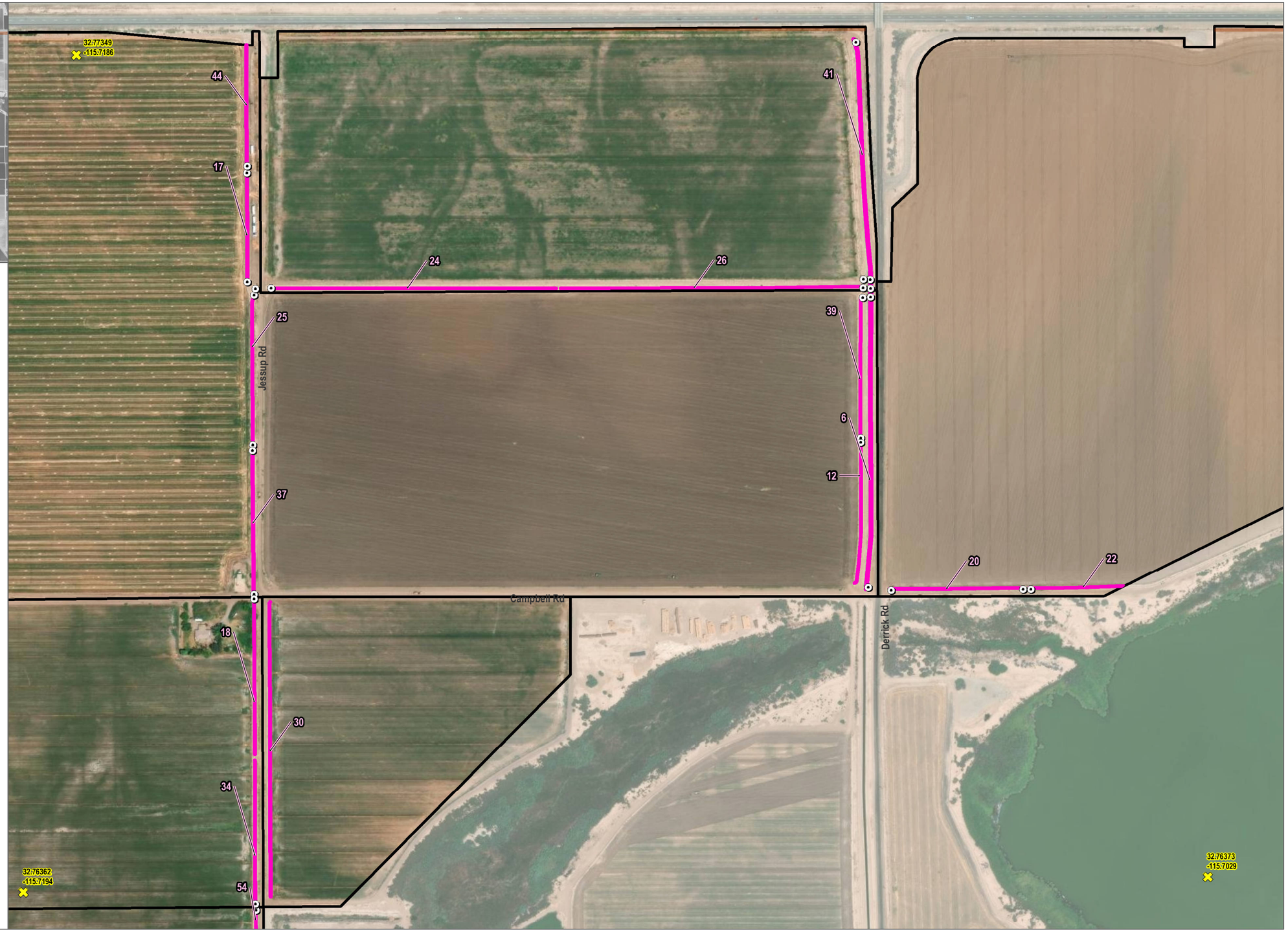
Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-3

Aquatic Resources Delineation

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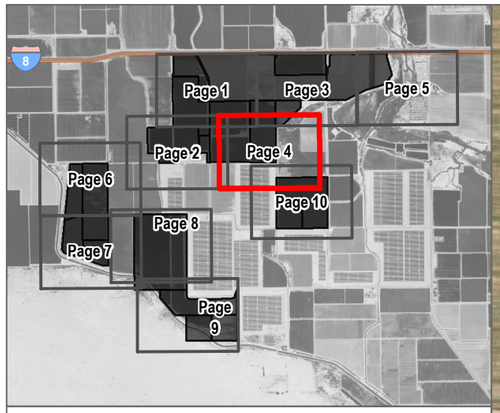

Project Boundary
Alternative Gen-Tie Line
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-4
Aquatic Resources Delineation
P# 15207

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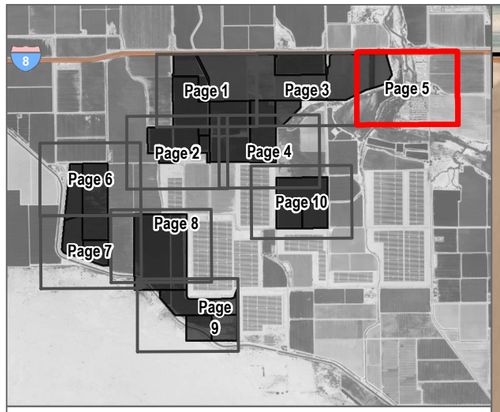

Project Boundary

Map Reference Point

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-5

Aquatic Resources Delineation

P# 15207

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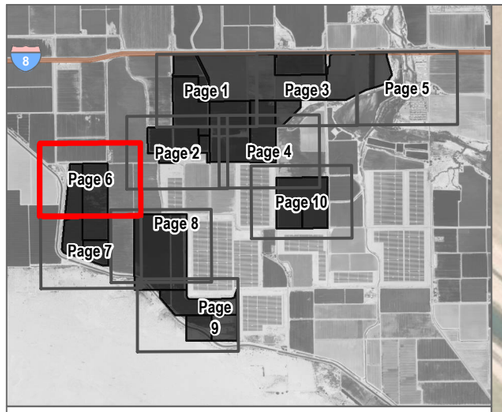


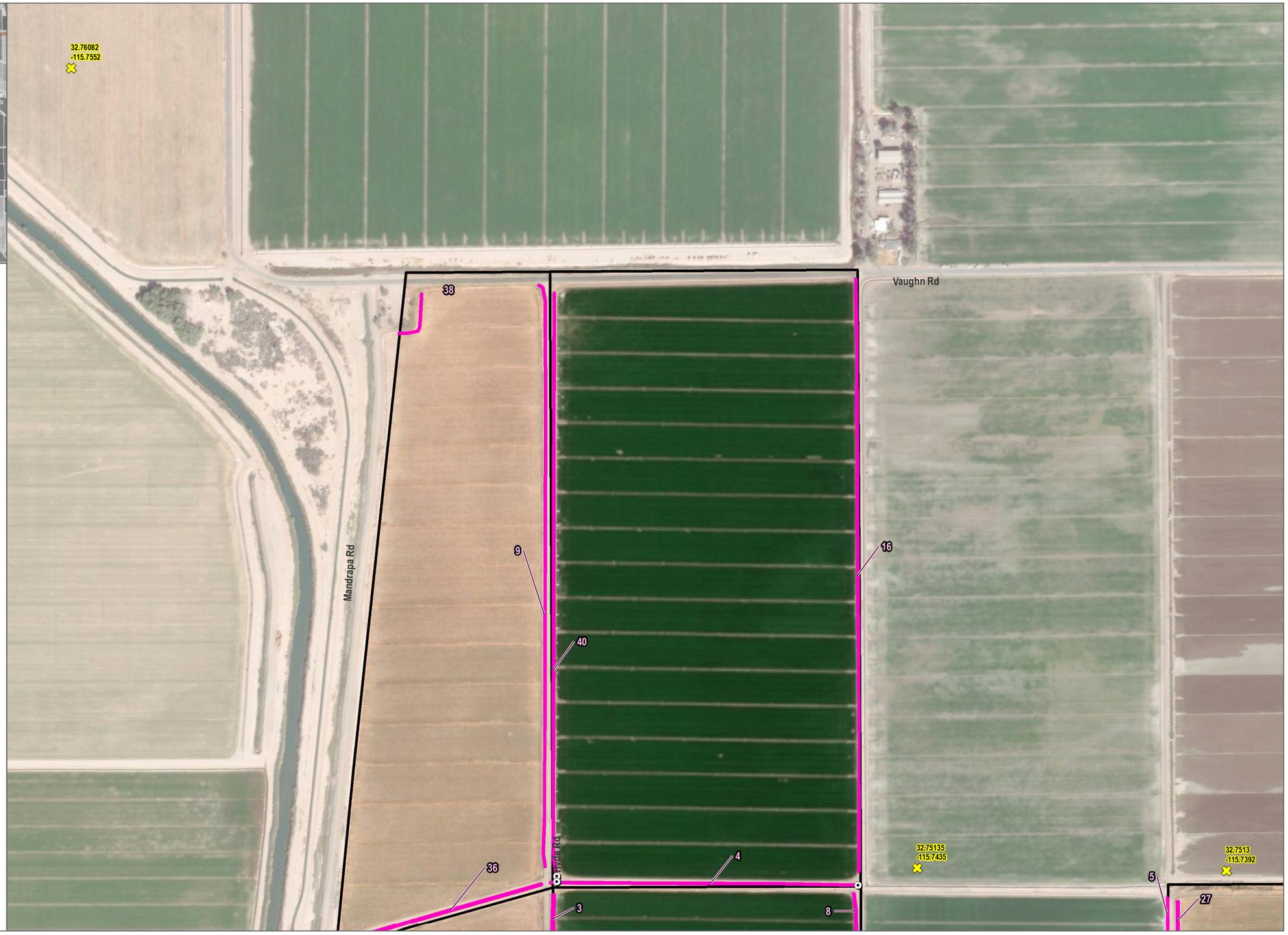
Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-6

Aquatic Resources Delineation

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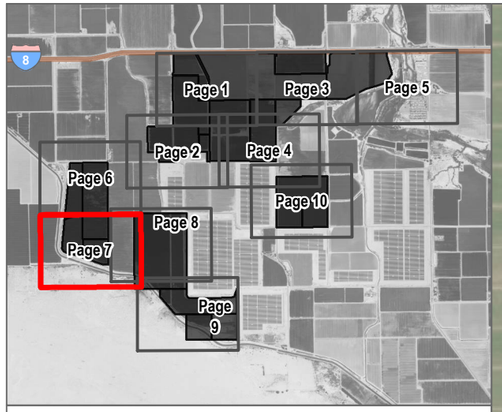


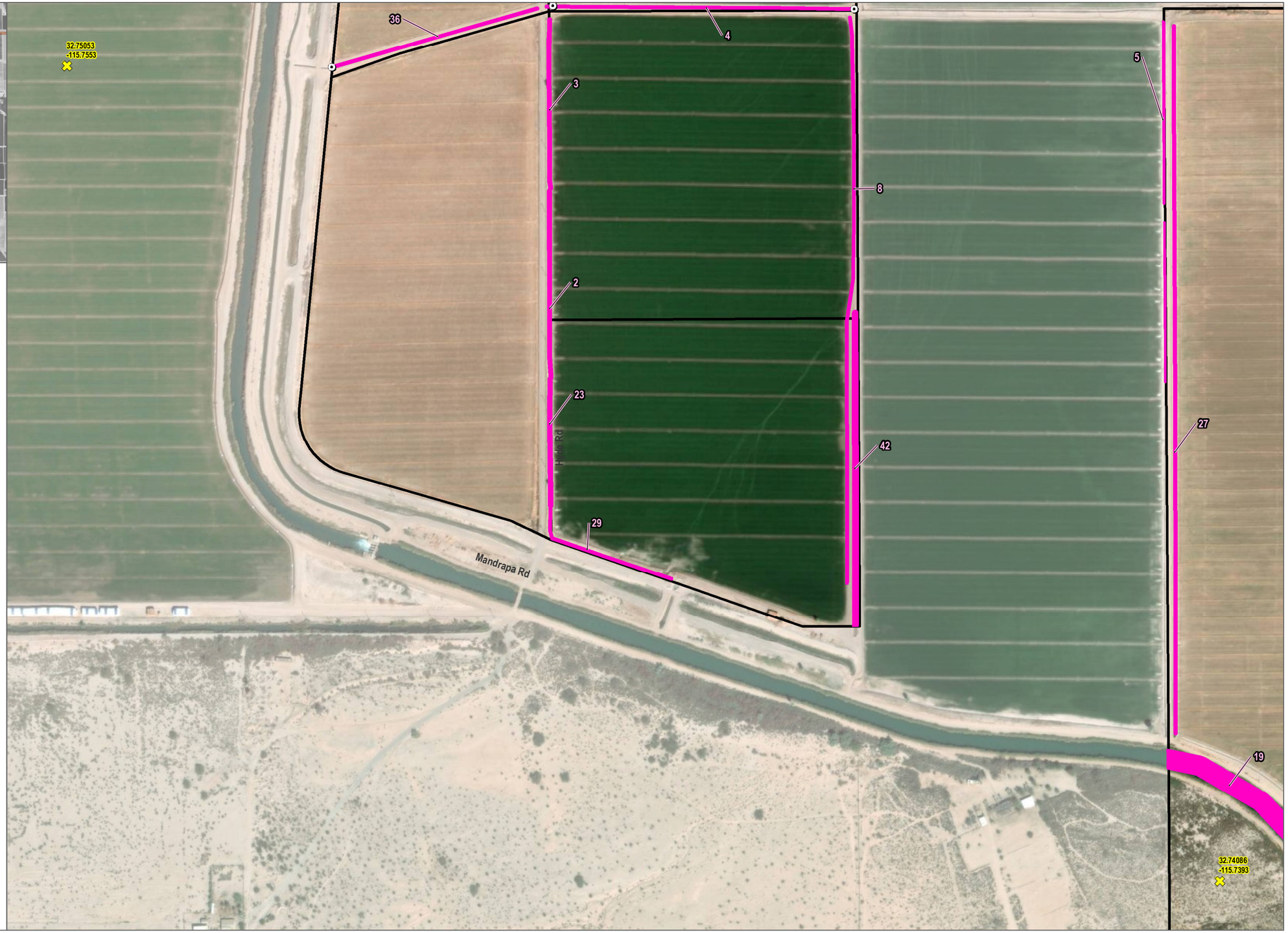
Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-7

Aquatic Resources Delineation

P# 15207

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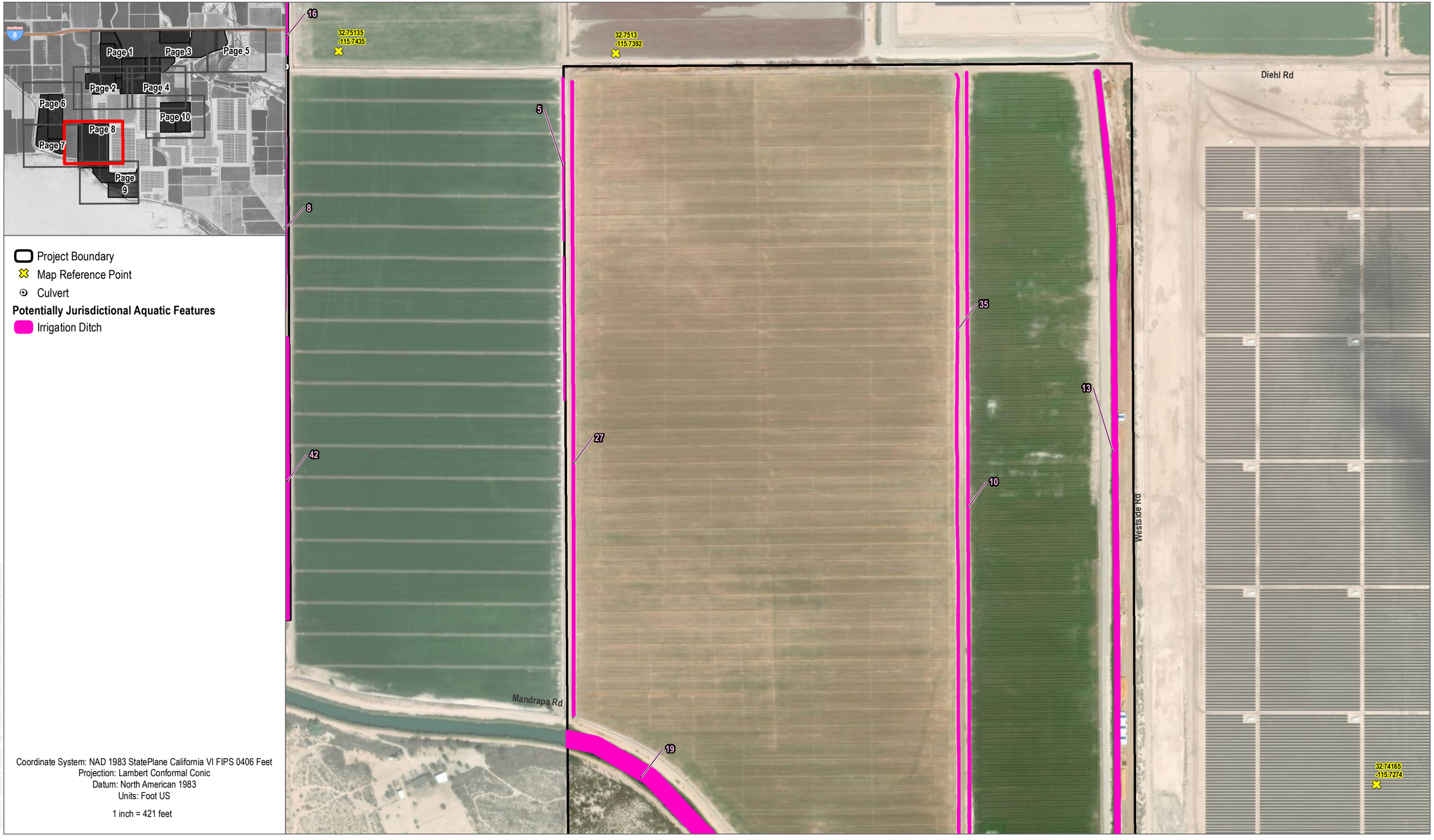

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK 0 200 400 Feet

FIGURE 5-8

Aquatic Resources Delineation

P# 15207

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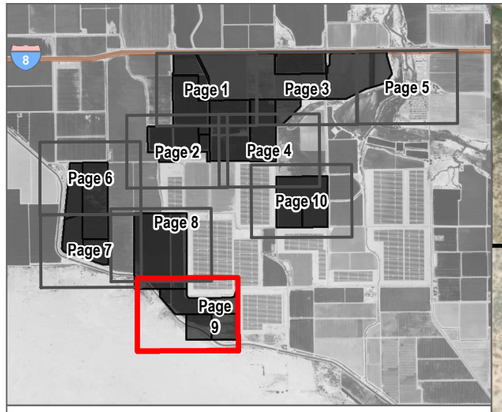

Project Boundary
Gen-Tie Line
Project BESS
Project Substation
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK 0 200 400 Feet

FIGURE 5-9

Aquatic Resources Delineation

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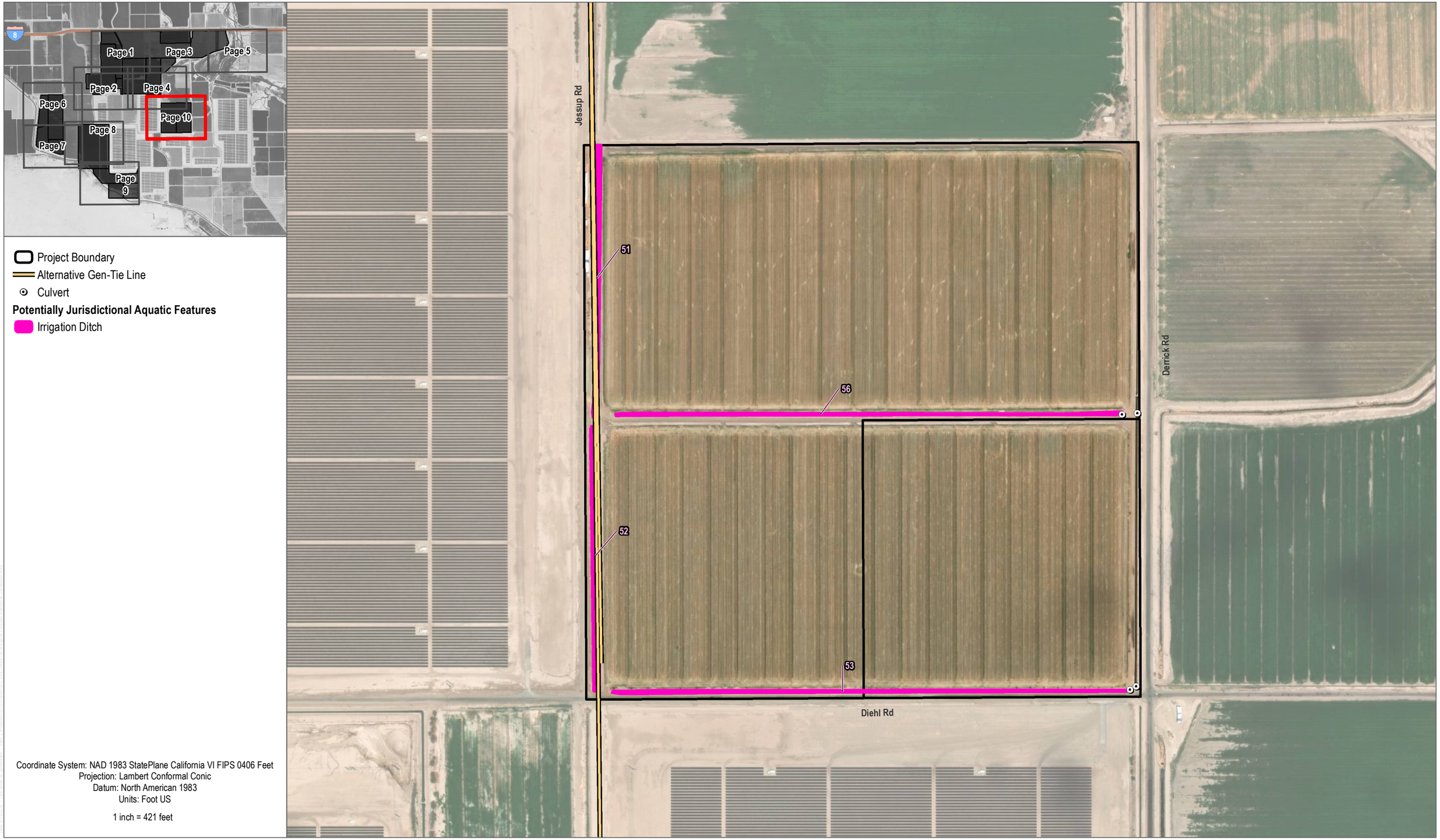

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023; Avantus 2023

DUDEK

0 200 400 Feet

FIGURE 5-10

Aquatic Resources Delineation

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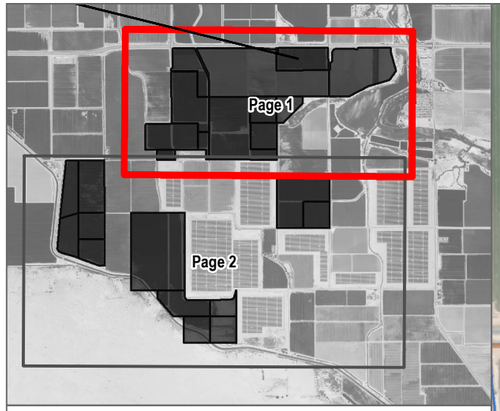

Project Boundary
Alternative Gen-Tie Line

Impacts
Permanent

Burrowing Owl
Direct Observation

Burrow
Active
Inactive/Unknown

Vegetation Communities and Land Cover Types
AGR, General Agriculture
DEV, Urban/Developed
DH, Disturbed Habitat
Irrigation Ditch

National Wetland Inventory
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Lake

SOURCE: Maxar 2023; USGS 2023

DUDEK

0 550 1,100 Feet

FIGURE 6-1
Impacts
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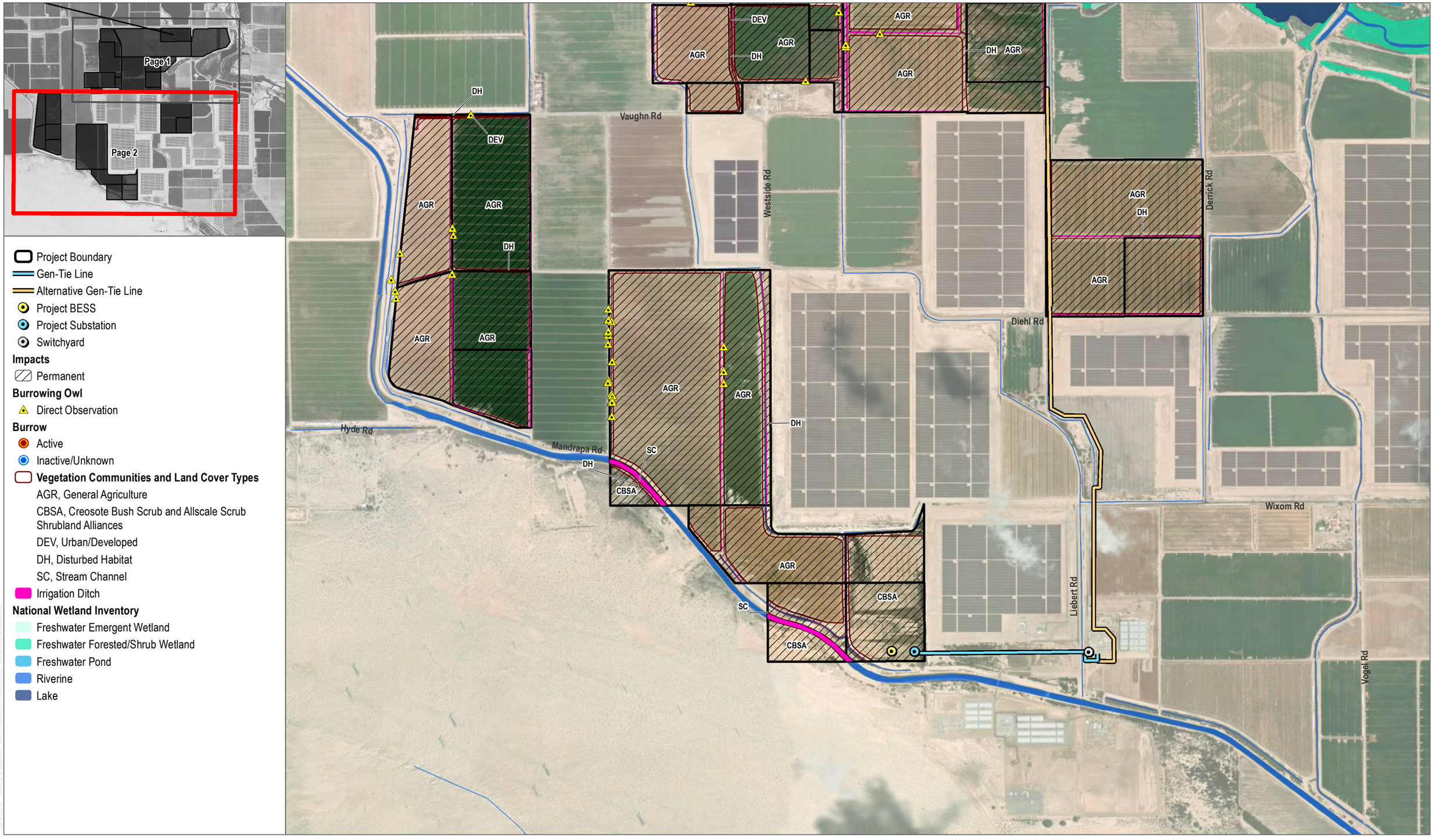

SOURCE: Maxar 2023; USGS 2023

DUDEK

0 750 1,500 Feet

FIGURE 6-2
Impacts
P# 15207

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Appendix A
Site Photos

Photo 1. Representative photo of creosote bush scrub and allscale scrub shrubland alliances.

Photo 2. Representative photo of creosote bush scrub and allscale scrub shrubland alliances.

Photo 3. Concrete irrigation ditch running adjacent to agricultural fields.

Photo 4. Unpaved access road between agricultural fields and irrigation ditches.

Photo 5. Active agricultural fields.

Photo 6. Fallow agricultural fields.

Photo 7. Image of an acoustic bat detector deployed near an open waterway within the project site.

Photo 8. Image of an acoustic bat detector deployed within desert riparian scrub habitat.

Photo 9. Image of partially skirted palm tree that provides potentially suitable bat roosting habitat.

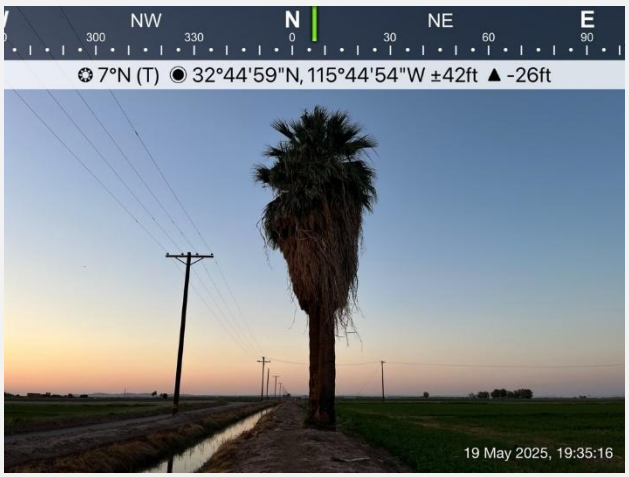

Photo 10. Image of partially skirted palm tree from one of the emergence survey site locations.

Appendix B
Plant Compendium

Vascular Species

Eudicots

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed
None/None/None

ASTERACEAE – SUNFLOWER FAMILY

* *Erigeron bonariensis* – asthmaweed
None/None/None

Helianthus gracilentus – slender sunflower
None/None/None

* *Lactuca serriola* – prickly lettuce
None/None/None

Pluchea sericea – arrow weed
None/None/None

* *Sonchus oleraceus* – common sowthistle
None/None/None

BORAGINACEAE – BORAGE FAMILY

Heliotropium curassavicum – salt heliotrope
None/None/None

CHENOPODIACEAE – GOOSEFOOT FAMILY

Atriplex canescens – fourwing saltbush
None/None/None

* *Chenopodium album* – lambsquarters
None/None/None

FABACEAE – LEGUME FAMILY

* *Medicago sativa* – alfalfa
None/None/None

* *Melilotus indicus* – annual yellow sweetclover
None/None/None

Prosopis pubescens – screwbean mesquite
None/None/None

MALVACEAE – MALLOW FAMILY

* *Malva parviflora* – cheeseweed mallow
None/None/None

POLYGONACEAE – BUCKWHEAT FAMILY

* *Rumex dentatus* – toothed dock
  None/None/None

SOLANACEAE – NIGHTSHADE FAMILY

* *Solanum elaeagnifolium* – silverleaf nightshade
  None/None/None

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix ramosissima* – tamarisk
  None/None/None

Monocots

ARECACEAE – PALM FAMILY

* *Phoenix canariensis* – Canary Island date palm
  None/None/None
* *Washingtonia robusta* – Washington fan palm
  None/None/None

CYPERACEAE – SEDGE FAMILY

Bolboschoenus maritimus ssp. *paludosus* – cosmopolitan bulrush
None/None/None

POACEAE – GRASS FAMILY

* *Arundo donax* – giant reed
  None/None/None
* *Avena fatua* – wild oat
  None/None/None

Distichlis spicata – salt grass
None/None/None

* *Echinochloa colona* – jungle rice
  None/None/None
* *Hordeum vulgare* – common barley
  None/None/None

Leptochloa fusca ssp. *uninervia* – Mexican sprangletop
None/None/None

* *Phalaris canariensis* – annual canarygrass
  None/None/None
* *Sorghum halepense* – Johnsongrass
  None/None/None

TYPHACEAE – CATTAIL FAMILY

Typha domingensis – southern cattail
None/None/None
Typha latifolia – broadleaf cattail
None/None/None

* signifies introduced (non-native) species

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Appendix C

Assessment of Special-Status Plant Species Potentially Occurring on the Project Site

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	Chaparral, coastal scrub, desert dunes; sandy/annual herb/(Jan) Mar–Sep/ 245–5,245	**Not expected to occur**. The site is outside of the species' known elevation range. A California Natural Diversity Database (CNDDB) search shows the nearest recorded occurrence of this species is 0.5 miles north of the Project site in 1949.
Astragalus sabulonum	gravel milk-vetch	None/None/2B.2	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; flats, gravelly (sometimes), roadsides, sandy (usually), washes/annual/perennial herb/ Feb–June/200–3,050	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search shows the nearest recorded occurrence of this species is 1.4 miles south of the Project site in 1961.
Calliandra eriophylla	pink fairy-duster	None/None/2B.3	Sonoran desert scrub (sandy, rocky)/perennial deciduous shrub/ Jan–Mar/395–4,920	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search shows the nearest recorded occurrence of this species is 1.0 miles south of the Project site in 1970.
Castela emoryi	Emory's crucifixion-thorn	None/None/2B.2	Mojavean desert scrub, playas, Sonoran desert scrub; gravelly/perennial deciduous shrub/(Apr) June–July (Sep–Oct)/295–2,375	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search shows the nearest recorded occurrence of this species is 5.7 miles southwest of the Project site in 1956.
Croton wigginsii	Wiggins' croton	None/SR/2B.2	Desert dunes, Sonoran desert scrub (sandy)/perennial shrub/Mar–May/ 165–330	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search shows the nearest recorded occurrence of this species is 2.6 miles northwest of the Project site in 2010.
Euphorbia abramsiana	Abrams' spurge	None/None/2B.2	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/ (Aug) Sep–Nov/15–4,295	**Low potential to occur**. The Project site is largely agriculture but contains areas of Sonoran desert scrub that could be suitable habitat for this species. A CNDDB search shows the nearest recorded occurrence of this species is 9.5 miles southwest of the Project site in 2013.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Euphorbia platysperma	flat-seeded spurge	None/None/1B.2	Desert dunes, Sonoran desert scrub (sandy)/annual herb/Feb–Sep/ 215–330	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search showed no recorded occurrences within 10 miles of the Project site.
Imperata brevifolia	California satintail	None/None/2B.1	Chaparral, coastal scrub, meadows and seeps (often alkali), Mojavean desert scrub, riparian scrub; mesic/perennial rhizomatous herb/Sep–May/0–3,985	**Not expected to occur**. No suitable habitat present. A CNDDB search shows the nearest recorded occurrence of this species is 7.5 miles southeast of the Project site in 1963.
Ipomopsis effusa	Baja California ipomopsis	None/None/2B.1	Chaparral, Sonoran desert scrub (alluvial fans); sandy/annual herb/ Apr–June/0–330	**Low potential to occur**. The Project site is largely agriculture, but contains areas of Sonoran desert scrub that could be suitable habitat for this species. A CNDDB search shows the nearest recorded occurrence of this species is 4.4 miles south of the Project site in 1966.
Lycium parishii	Parish's desert-thorn	None/None/2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/Mar–Apr/ 445–3,280	**Not expected to occur**. The site is outside of the species' known elevation range. A CNDDB search shows the nearest recorded occurrence of this species is 1.1 miles west of the Project site in 2010.
Malperia tenuis	brown turbans	None/None/2B.3	Sonoran desert scrub (sandy, gravelly)/annual herb/ (Feb) Mar–Apr/50–1,095	**Low potential to occur**. The Project site is largely agriculture but contains areas of Sonoran desert scrub that can be suitable habitat for this species. A CNDDB search shows the nearest recorded occurrence of this species is 1.1 miles west of the Project site in 2010.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Mentzelia hirsutissima	hairy stickleaf	None/None/2B.3	Sonoran desert scrub (rocky)/annual herb/Mar–May/0–2,295	**Low potential to occur**. The Project site is largely agriculture but contains areas of Sonoran desert scrub that can be suitable habitat for this species. A CNDDB search shows the nearest recorded occurrence of this species is 4.8 miles east of the Project site in 1961.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/Jan–July/15–1,640	**Not expected to occur**. No suitable habitat present; however, marshes are found adjacent to northern areas of the Project site. A CNDDB search shows a species occurrence overlapped within the Project site in 1903.

Status Legend
None: No Status
State
SR: State listed as rare
CRPR: California Rare Plant Rank
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

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Appendix D
Wildlife Compendium

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird
None/None
Euphagus cyanocephalus – Brewer's blackbird
None/None
Sturnella neglecta – western meadowlark
None/None

Falcons

FALCONIDAE – CARACARAS AND FALCONS

Falco sparverius – American kestrel
None/None

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Tyrannus verticalis – western kingbird
None/None

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Circus hudsonius – northern harrier
BCC/SSC

Herons and Bitterns

ARDEIDAE – HERONS, BITTERNS, AND ALLIES

Ardea alba – great egret
None/None
Egretta thula – snowy egret
None/None

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus corax – common raven

None/None

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

None/None

Old World Sparrows

PASSERIDAE – OLD WORLD SPARROWS

* *Passer domesticus* – house sparrow

None/None

Owls

STRIGIDAE – TYPICAL OWLS

Athene cunicularia – burrowing owl

SCE/BCC/SSC

Bubo virginianus – great horned owl

None/None

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

None/None

* *Streptopelia decaocto* – Eurasian collared-dove

None/None

Roadrunners and Cuckoos

CUCULIDAE – CUCKOOS, ROADRUNNERS, AND ANIS

Geococcyx californianus – greater roadrunner

None/None

Swallows

HIRUNDINIDAE – SWALLOWS

Petrochelidon pyrrhonota – cliff swallow
None/None

* signifies introduced (non-native) species

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Appendix E

Assessment of Special-Status Wildlife Species Potentially Occurring on the Project Site

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Lithobates pipiens (native populations only)	northern leopard frog	None/SSC	Adjacent to permanent and semi-permanent water in a range of habitats	**Not expected to occur**. Marginal suitable habitat is present within drainage canals. A California Natural Diversity Database (CNDDB) search shows the nearest recorded occurrence of this species is 6.5 miles east of the Project site in 1929.
Lithobates yavapaiensis	lowland (=Yavapai, San Sebastian and San Felipe) leopard frog	None/SSC	Streams, river side channels, springs, and artificial and natural ponds in desert scrub, grassland, woodland, and pinyon–juniper woodland	**Not expected to occur**. Marginal suitable habitat is present within drainage canals. A CNDDB search shows the nearest recorded occurrence of this species is 4.4 miles north of the Project site in 1909.
Reptiles				
Phrynosoma mcallii	flat-tailed horned lizard	None/SSC	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils	**Not expected to occur.** Suitable desert wash habitat is not present on the Project site. A CNDDB search shows the nearest recorded occurrence of this species is 0.6 miles west of the Project site in 2018.
Uma notata	Colorado Desert fringe-toed lizard	None/SSC	Wind-blown sand dunes, dry lakebeds, sandy beaches, riverbanks, desert washes, and sparse desert scrub	**Low potential to occur.** Marginal desert scrub habitat is present in areas not used for agriculture. A CNDDB search shows the nearest recorded occurrence of this species is 3.7 miles south of the Project site in 2004.
Birds				
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC/SCE	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Observed**. This species was observed by Dudek during the April to July 2023 field surveys. Multiple individuals and burrows were recorded throughout the site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	**Low potential to forage; no potential to nest.** Agricultural fields could provide suitable wintering habitat for this species. The Project site falls outside of this species' nesting range.[1] A CNDDB search shows the species was recorded within the Project site in 2010.
Circus hudsonius	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	**Observed.** This species was observed by Dudek biologists during June 2023 burrowing owl surveys. One individual was recorded, but the Project site is not within the species' known breeding area. Therefore, this species has no potential to nest.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	**Low potential to forage; no potential to nest.** There is marginal suitable marsh habitat present within some drainage canals that could potentially support foraging; however, the species is not expected to breed due to the limited suitable habitat. A CNDDB search shows the nearest recorded occurrence of this species is 2.7 miles north of the Project site in 2001.
Melanerpes uropygialis	Gila woodpecker	BCC/SE	Nests and forages in Saguaro cacti, riparian woodland, and residential areas	**Not expected to occur**. No suitable vegetation present. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Pyrocephalus rubinus (nesting)	vermilion flycatcher	None/SSC	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures	**Not expected to occur**. No suitable vegetation present. A CNDDB search shows the nearest recorded occurrence of this species is 2.7 miles east of the Project site in 1909.

[1] Cornell Lab of Ornithology. 2023. "All About Birds." Accessed July 2023. https://www.allaboutbirds.org/news/.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Rallus obsoletus yumanensis	Yuma Ridgway's rail	FE/FP, ST	Freshwater marsh dominated by Typha spp., Scirpus spp., Schoenoplectus spp., and Bolboschoenus spp.; mix of riparian tree and shrub species along the marsh edge; many occupied areas are now artificial (human-made), such as managed ponds or effluent-supported marshes	**Low potential to forage; no potential to nest**. No suitable marsh habitat present is present within the Project site, but this species may fly over the Project site to access suitable foraging habitat. A CNDDB search shows the nearest recorded occurrence of this species was directly adjacent to the Project site in the Wixom Drain in 2007.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Not expected to occur**. No suitable vegetation present. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Toxostoma crissale	Crissal thrasher	None/SSC	Nests and forages in desert riparian and desert wash; dense thickets of sagebrush and other shrubs such as mesquite, iron catclaw acacia, and arrowweed willow within juniper and pinyon–juniper woodlands	**Not expected to occur**. No suitable vegetation present. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Toxostoma lecontei	LeConte's thrasher	BCC/SSC	Nests and forages in desert wash, desert scrub, alkali desert scrub, desert succulent, and Joshua tree habitats; nests in spiny shrubs or cactus	**Low potential to forage and nest.** Marginal desert scrub habitat on the Project site is present in areas not used for agriculture. A CNDDB search shows the nearest recorded occurrence of this species is 5.9 miles northwest of the Project site in 1933.
Mammals				
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	**Low potential to forage; no potential to roost**. Marginal desert scrub habitat for foraging is present, but there are no suitable riparian or palm habitat to roost within the Project site. A CNDDB search shows the nearest recorded occurrence of this species is 7.4 miles east of the Project site in 1999.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	**Low potential to forage; no potential to roost**. Marginal desert scrub habitat for foraging is present, but there are no suitable cliffs or rock crevices to roost within the Project site. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Neotoma albigula venusta	Colorado Valley woodrat	None/None	Desert areas; closely associated with patches of beavertail cactus and mesquite	**Low potential to occur.** Marginal desert habitat in the Project site is present in areas not used for agriculture. A CNDDB search shows the nearest recorded occurrence of this species is 2.9 miles east of the Project site in 1909.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	**Low potential to forage; no potential to roost.** Marginal desert scrub habitat on the Project site is present in areas not used for agriculture. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	**Not expected to forage or roost**. No suitable vegetation present. A CNDDB search shows the nearest recorded occurrence of this species is 7.4 miles east of the Project site in 1999.
Perognathus longimembris bangsi	Palm Springs pocket mouse	None/SSC	Creosote scrub, desert scrub, and grasslands; sparse to moderately dense vegetative cover	**Low potential to occur.** Marginal desert scrub habitat on the Project site is present in areas not used for agriculture. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.
Sigmodon hispidus eremicus	Yuma hispid cotton rat	None/SSC	Backwater sloughs, marshy areas adjacent to Colorado River	**Not expected to occur**. No suitable vegetation is present in the Project site. A CNDDB search shows the nearest recorded occurrence of this species is 0.5 miles west of the Project site in 2009.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	**Low potential to occur**. Agricultural areas may provide suitable habitat for this species. A CNDDB search shows the nearest recorded occurrence of this species is 2.5 miles east of the Project site in 1911.
Vulpes macrotis arsipus	desert kit fox	None/None	Alluvial and riparian forest, woodland, and scrub; desert dunes and scrub; Joshua tree woodland	**Low potential to occur.** While the Project site occurs within the range of desert kit fox, the site is nearly entirely comprised of active agriculture, which does not provide suitable habitat for this species. However, there are two small areas in the southern portion of the Project site that comprise approximately 20 acres which include creosote bush scrub and allscale scrub. These vegetation communities provide suitable habitat for desert kit fox; therefore, this species has a low potential to occur within the Project site.
Invertebrates				
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources	**Not expected to occur.** Marginal desert scrub habitat is present in areas not used for agriculture. This species is generally absent from the desert floor.[2] The project site is not located within the current range for this species.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	**Not expected to occur**. No suitable vegetation present. A CNDDB search shows there are no recorded species observances within 10 miles of the Project site.

Status Legend
None: No Status
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
State

[2] Richardson, L.L. 2023. Bumble Bees of North America Occurrence Records Database. Accessed May 3, 2023. https://www.leifrichardson.org/bbna.html.

FP: CDFW Fully Protected species
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened

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Appendix F

Aquatic Resources Delineation Report

Aquatic Resources Delineation Report

Big Rock 2 Cluster Solar and Storage Project Imperial County, California

OCTOBER 2024

Lead Agency:

IMPERIAL COUNTY
801 Main Street
El Centro, California 92243

Project Proponent:

90FI 8me LLC
4370 Town Center Boulevard, Suite 110
El Dorado Hills, California 95762

Prepared by:

DUDEK
605 Third Street
Encinitas, California 92024
Callie Amoaku

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

TABLES

APPENDICES

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APT	Antecedent Precipitation Tool
ARC	antecedent runoff condition
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
EPA	Environmental Protection Agency
HUC	hydrologic unit code
IID	Imperial Irrigation District
NWI	National Wetland Inventory
OHWM	ordinary high water mark
PDSI	Palmer Drought Severity Index
Project	Big Rock 2 Energy Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service

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1 Introduction

This Aquatic Resources Delineation Report was prepared in accordance with the U.S. Army Corps of Engineers (USACE) Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This report and supporting appendices provide the 20 items listed in the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek for the proposed Big Rock 2 Cluster Solar and Storage Project (project) located in Imperial County, California, south of Interstate 8 and west of the town of El Centro, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of USACE pursuant to Section 404 of the Clean Water Act (33 USC 1344); waters of the state potentially subject to the regulatory jurisdiction of the Region 7 Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act; and stream and riparian habitats potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This report presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the identified review areas using the current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this report are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation. A request for USACE Jurisdictional Determination is not provided at this time; this report is purely informational.[1]

1.2 Contact Information

Contact information for the project applicant and agent are provided in Table 1.[2] Access to the proposed Project site is not restricted, but if a site visit is requested, the project applicant or agent will accompany regulatory staff to the site.[3] 90FI 8me LLC is the project applicant, and the proposed Project parcels are under the current ownership of various private parties.

Table 1. Contact Information

Project Applicant	90FI 8me LLC	**Agent**	Dudek
Contact Name	Available upon request	**Contact Name**	Callie Amoaku
Address	4370 Town Center Boulevard, Suite 110 El Dorado Hills, California 95762	**Address**	605 Third Street Encinitas, California 92024
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Email	Available upon request	**Email**	cford@dudek.com

1 Minimum Standards Item 1 (Request for Jurisdictional Determination)
2 Minimum Standards Item 2 (Contact Information)
3 Minimum Standards Item 3 (Site Access Statement)

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2 Review Area Description and Landscape Setting

The proposed project is in unincorporated Imperial County, California (Figure 1, Project Location; see Appendix A for figures), south of Interstate Highway 8 and west of the town of El Centro, California. The project area comprises approximately 1,849 acres of agricultural lands and associated roads, catchments, and irrigation ditches.

The project area is composed of the following 24 Accessor's Parcel Numbers: 051-290-019, 051-300-016, 051-290-018, 051-320-007, 051-350-004, 051-270-041, 051-270-028, 051-320-006, 051-320-005, 051-280-054, 051-270-036, 051-300-037, 051-300-035, 051-330-003, 051-350-006, 051-350-008, 051-350-007, 051-270-020, 051-300-011, 051-300-026, 051-300-032, 051-300-036, 051-310-027, and 051-310-028. The geographic center of the review area roughly corresponds with 32.75669 and –115.73002 (decimal degrees). Elevations with the project area range from 10 to 60 feet below sea level.

The topography of the review area is very flat, given its agricultural nature; various earthen and concrete irrigation ditches, with most major irrigation ditches running north to south across the project area, are the only portions of the site with varying topographic relief. These irrigation ditches are also under ownership and management of the Imperial Irrigation District (IID).

Current land use of the review area includes cropland, dryland grain crops, irrigated grain and hayfields, row crops, orchard(s), pastureland, irrigation ditches, and developed lands with rural infrastructure.

2.1 Soils[4]

According to the USDA Web Soil Survey (USDA 2023a), 16 soil types are mapped within the proposed Project site, including Badland; Glenbar complex; Holtville silty clay, wet; Imperial silty clay, wet; Imperial-Glenbar silty clay loams, wet, 0% to 2% slopes; Indio Loam, wet; Indio-Vint complex; Meloland and Holtville loams, wet; Meloland fine sand; Meloland very fine sandy loam, wet; Niland fine sand; Rositas fine sand, 0% to 2% slopes; Rositas fine sand, wet, 0% to 2% slopes; Rositas sand, 0% to 2% slopes; Vint and Indio very fine sandy loams, wet; Vint loamy very fine sand, wet; and water (Figure 2, Soils).

- Holtville Series consists of very deep, well-drained soils formed in mixed and stratified alluvium. These soils have slow permeability, typically occur on floodplains, and are moderately alkaline in the A horizon (USDA 2023a). The Holtville series is the second-most-abundant soil type and comprises small patches throughout the project site; however, these areas are currently dominated by agricultural use in existing condition.
- Imperial Series consists of very deep, calcareous soils with very slow permeability. This soil series typically occurs on floodplains and old lakebeds and is well and moderately well-drained (USDA 2023a). The Imperial series and Imperial-Glenbar association comprise the majority of the project site; however, these areas are currently dominated by agricultural use in existing condition.

4 Minimum Standards Item 13 (Soil Descriptions)

- Glenbar Series consists of very deep, well-drained soils formed in stratified stream alluvium. These soils have moderately slow permeability, typically occur in desert floodplains and lacustrine basins, and are moderately alkaline in the A horizon (USDA 2023a). The Imperial-Glenbar association comprises the majority of the project site; however, these areas are currently dominated by agricultural use in existing condition.
- Indio Series consists of very deep, well-drained soils formed in alluvium. These soils are well to moderately drained, with moderate permeability, and occur on lacustrine basins and flood plains (USDA 2023a). The Indio loam series occurs mainly in the northern area of the project site; however, these areas are currently dominated by agricultural use in existing condition.
- Meloland Series consists of naturally well-drained soils with very slow permeability. This soil series typically occurs on floodplains and old lakebeds and are slightly alkaline in the A horizon (USDA 2023a). The Meloland series comprises patches throughout the project site; however, this area is currently dominated by agricultural use in existing condition.
- Rositas Series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. These soils have rapid permeability and typically occur on dunes and sand sheets (USDA 2023a). The Rositas series comprises a fairly large area in the southern portion of the project site; however, this area is currently dominated by agricultural use in existing condition.
- Vint Series consists of very deep, somewhat excessively drained soils formed in stratified stream alluvium. These soils have moderately rapid permeability, typically occur on floodplains, and are moderately alkaline in the A horizon (USDA 2023a). The Vint series comprises both large and small patches throughout the project site; however, these areas are currently dominated by agricultural use in existing condition.
- Niland Series consists of well and moderately well drained soils formed in coarse mixed alluvium overlying fine alluvium. These soils have a range of permeability, depending on the sand and clay content, and typically occur on basin and floodplain edges (USDA 2023a). The Niland series comprises a very small area in the southwestern corner of the project site.
- Badland Series are arid, clay-rich soils that have experienced excessive erosional forces due to wind and water. These soils typically have steep slopes with minimal vegetation and exhibit high drainage. Badlands comprise a very small area of the project site; however, this area is currently dominated by agricultural use in existing condition.

None of these soil types are ranked as a hydric soil in Imperial County, California (USDA 2023b).

2.2 Vegetation

Five land cover types are present within the proposed Project site: general agriculture, stream channel (irrigation ditch), creosote brush scrub and allscale scrub shrubland alliances, urban/developed, and disturbed habitat. Within the review area, agricultural lands consist of alfalfa (*Medicago sativa*), date palms (*Phoenix dactylifera*), Bermudagrass (*Cynodon dactylon*), and herbaceous vegetables, as well as several fallow fields, occupying nearly 98% of the project site. On-site farming practices include soil disking, plowing, herbicide application, and regular anthropogenic maintenance and disturbance associated with ongoing management actions. Compacted, dirt roads and brow ditches are included within this land cover type.

Within the proposed Project site, stream channel is characterized by irrigation ditches that convey flows throughout active agricultural lands. These areas include irrigation ditches that are unvegetated or vegetated with ruderal species such as giant reed *(Arundo donax*), nettleleaf goosefoot (*Chenopodium murale*), and asthmaweed (*Erigeron bonariensis*).

2.3 Watershed

The proposed Project site occurs within the Salton Sea Subbasin (hydrologic unit code [HUC] 18100204); within this watershed, the proposed Project site overlaps with the Salt Creek Slough Subwatershed (HUC 181002040807) and the Upper New River Subwatershed (HUC 181002040902) within the New River Watershed (HUC 181002040902). The New River Watershed comprises approximately 328 square miles (209,920 acres) and contains the New River, which flows north from the United States/Mexico border, south of the site. The river flows approximately 66 miles across the Imperial Valley to its terminus in the Salton Sea. The Upper New River Subwatershed comprises approximately 7 square miles (4,480 acres) within the New River Watershed.

The western portion of the proposed Project site overlaps with the Salt Creek Slough Subwatershed, a catchment area of 34 square miles (21,760 acres) that sits within the larger Coyote Wash Watershed, which directs intermittent flows eastward from the Jacumba Mountains and has an area of 340 square miles (217,600 acres).

Figure 3, Hydrology, displays the New River Watershed, Salton Sea Subbasin and various subwatersheds mapped within the proposed Project site.

2.4 Review Area Alterations, Current and Past Land Use

The entirety of the proposed Project site has been significantly altered/modified from its natural state. The entire site, including all crop fields, dirt roads, and irrigation ditches are actively maintained and utilized for active agricultural operations.

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3 Precipitation Data and Analysis[5]

The USACE-developed Antecedent Precipitation Tool (APT) was used to assess whether the delineation date occurred in a drier-, average-, or wetter-than-normal period (USACE 2023). To determine what constitutes a "typical year," USACE developed the APT. The information generated from the APT can help to determine whether normal hydrologic and/or climatic conditions were present during the site visit and assist with completing the Wetland Determination Data Form.

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis, with PDSI value outputs ranging from –4 (extreme drought) to +4 (very wet) (NOAA 2023) to assess drought conditions (i.e., PDSI Class). The APT determines wet vs. dry season based on related procedures provided in the applicable regional supplement for the review area (in this case, the Arid West Supplement). If the antecedent runoff condition (ARC) score is less than 10, then the antecedent precipitation condition is classified as drier than normal; normal conditions are present with an ARC score of 10 to 14; conditions are wetter than normal when an ARC score is greater than 14 (USACE 2023).

Table 2 summarizes the key data extrapolated from the APT output: estimated drought conditions (PDSI Class), wet or dry season determination, ARC score, and antecedent precipitation condition. Based on the APT output provided in Appendix B and summarized in Table 2, the precipitation and climatic conditions for the review area were normal during the time of the delineation due to normal rainfall amounts in the spring of 2023.

Table 2. Antecedent Precipitation Tool Data for the Review Area

Field Survey Dates	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
4/21/2023	Moderate wetness	Dry season	12	Normal conditions

Notes: PDSI = Palmer Drought Severity Index; ARC = antecedent runoff condition

Additionally, according to the U.S. Department of Agriculture's (USDA) Agricultural Applied Climate Information System (USDA 2023c), the area around the proposed Project site receives an average of 2.56 inches of precipitation annually.

[5] Minimum Standards Item 11 (Discussion of Hydrology)

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4 Investigation Methods[6]

The jurisdictional delineation was conducted initially using desktop review of aerial imagery and the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) data (USFWS 2023). No natural features were apparent during the desktop review, but there are several ditches and irrigation ditches throughout the proposed Project site. A site visit was completed on April 21, 2023, by Dudek biologist Abby Bergsma. Remote sensing was not used for the delineation.

4.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). A Field Guide to the Identification of the High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with Esri Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM manual.

Wetland Determination Forms were not taken during the delineation since all hydrophytic vegetation was observed below the banks or OHWMs of actively maintained irrigation ditches; since these ditches are owned and managed by the IID, wetland sample points were not taken within them due to a lack of legal access. Accordingly, no USACE three-parameter wetlands were assumed to be present on the site since no areas of hydrophytic vegetation were observed outside of ditches.

Waters of the U.S.

The definition of waters of the United States establishes the geographic scope for authority under Section 404 of the CWA; however, the CWA does not specifically define waters of the United States, leaving the definition open to statutory interpretation and agency rulemaking. The definition of what constitutes "waters of the United States" (provided in 33 CFR Section 328.3(a)) has changed multiple times over the past few decades, starting with the *United States v. Riverside Bayview Homes Inc*. court ruling in 1985. Subsequent court proceedings, rule makings, and congressional acts in 2001 (*Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*), 2006 (*Rapanos v. United States*), 2015 (Clean Water Rule), 2018 (suspension of the Clean Water Rule), 2019 (formal repeal of the Clean Water Rule), 2020 (Navigable Waters Protection Rule), and 2021 (*Pasqua Tribe et al v. United States Environmental Protection Agency* resulting in remand and vacatur of the Navigable Waters Protection Rule and a return to "the pre-2015 regulatory regime") have attempted to provide greater clarity to the term and its regulatory implementation. On December 30, 2022, the agencies announced the final Revised Definition of "Waters of the United States" rule (Rule) (88 CFR 3004–3144). The Rule was published in the Federal Register on January 18, 2023, and became effective on March 20, 2023, restoring federal jurisdiction over waters that were protected prior to 2015 under the Clean Water Act for traditional navigable waters, the territorial seas, interstate waters, and upstream water resources that significantly affect those waters. The Rule represents a re-expansion of federal jurisdiction over certain water bodies and wetlands previously exempt pursuant to the

[6] Minimum Standards Item 8 (Dates of Field Work), Item 5 (Use of 1987 Manual, Regional Supplement, and OHWM guide), Item 12 (Statement Regarding Use of Remote Sensing), Item 18 (Data Forms) and Item 19 (Methods)

2020 Navigable Waters Protection Rule. The Rule also considers various subsequent court decisions, including two notable Supreme Court decisions.

There are two key changes that the Rule incorporates. Firstly, the Rule reinstates the "Significant Nexus" test. The Significant Nexus test refers to waters that either alone, or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of traditional navigable waters, interstate waters, or the territorial seas (86 FR 69372-69450). The Significant Nexus test attempts to establish a scientific connection between smaller water bodies, such as ephemeral or intermittent tributaries, and larger, more traditional navigable waters such as rivers. Significant Nexus evaluations take into consideration hydrologic and ecologic factors including, but not limited to, volume, duration, and frequency of surface water flow in the resource and its proximity to a traditional navigable water, and the functions performed by the resource on adjacent wetlands. Second, the Rule adopts the "Relatively Permanent Standard" test. To meet the Relatively Permanent Standard, water bodies must be relatively permanent, standing, or continuously flowing and have a continuous surface connection to such waters.

On May 25, 2023, the Supreme Court issued its long-anticipated decision in Sackett v. the Environmental Protection Agency (EPA), in which it rejected the EPA's claim that "waters of the United States," as defined in the CWA, includes wetlands with an ecologically significant nexus to traditional navigable waters. The Supreme Court held that only those wetlands with a continuous surface water connection to traditional navigable waterways would be afforded federal protection under the CWA. Specifically, to assert jurisdiction over an adjacent wetland under the CWA, a party must establish that (1) the adjacent body of water constitutes water[s] of the United States (i.e., a relatively permanent body of water connected to traditional interstate navigable waters), and (2) the wetland has a continuous surface connection with that water, making it difficult to determine where the water ends and the wetland begins. On August 29, 2023, the EPA and USACE announced the final rule amending the 2023 definition of "waters of the United States", conforming with the Sackett v. EPA decision. Some of the key changes include removing the significant nexus test from consideration when identifying tributaries and other waters as federally protected and revising the adjacency test when identifying federally jurisdictional wetlands. Under the EPA's new "waters of the United States" definition, a "waters of the United States" is a relatively permanent, standing, or continuously flowing body of water that has an apparent surface connection to a "traditionally navigable water" to fall within federal purview. The new rule applies to wetlands and streams throughout the U.S. Although the Sackett opinion did not specifically reference streams, the EPA's new rule extends the "continuous surface connection" standard to streams, thereby removing non-permanent, ephemeral streams that do not meet these standards from federal jurisdiction.

The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR, Section 328.3(c)(16), as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the "ordinary high water mark," which is defined in 33 CFR 328.3(c)(7) as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

4.2 Regional Water Quality Control Board

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2019). As described in these procedures, wetland waters of the state are mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters are mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b).

4.3 California Department of Fish and Wildlife

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code 1602. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979). The boundaries were mapped to the top of bank to delineate the extent of the streambed area potentially regulated by CDFW.

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5 Aquatic Resource Narrative[7]

5.1 Waters of the United States (USACE)

Approximately 24.74 acres of non-wetland waters/ditches and their associated culverts were delineated within the proposed Project site below the OHWM of irrigation ditches (Figures 4-1 through 4-10, Aquatic Resources Delineation, and Figures 5-1 through 5-23, Culverts[8]). These non-wetland waters serve as IID irrigation ditches that convey water throughout the Imperial Valley and are connected to a vast network of ditches that source water from the Colorado River. Table 3 provides a detailed summary of aquatic resources delineated within the review area. Table 3 also includes a description of each feature identified within the review area; its Cowardin type, if available (Cowardin et al. 1979); any OHWM indicators present; the location; and the acreage/linear feet. The locations of the culverts conveying flow from these ditches are included on Figures 5-1 through 5-23 and included in the table below. Photos of the potential aquatic features delineated within the proposed Project site and additional areas reviewed for the presence of these resources are provided in Appendix C.[9] The locations of these photos are shown in Figures 4-1 through 4-10.

Many smaller, likely non-jurisdictional concrete or dry earthen ditches with gates exist within and along the boundaries of agricultural fields in the review area. While technically connected to potentially jurisdictional irrigation ditches, they are constructed in uplands purely for the function of irrigating individual fields and do not serve as critical conveyance pathways for regional irrigation like the larger, potentially jurisdictional ditches. These are shown on Figures 4-1 through 4-10.

When the field delineation occurred, surface water was present in all of the non-wetland waters/ditches mapped within the Project site; therefore, the waters onsite are likely considered relatively permanent waters. Based on site conditions observed in April 2023, the 24.74 acres of non-wetland waters/ditches and 0.05 acres of culverts connecting these non-wetland waters/ditches within the Project site contain surface water and include, or have a continuous surface connection to, the Fern Canal, Fig Canal, and the Westside Main Ditch. These have a continuous surface connection to the Salton Sea, a traditional navigable water (USACE 2023). Therefore, these features meet the definition of a 33 CFR, Section 328.3 (a)(3) waters. Accordingly, all non-wetland waters mapped in the review area may be subject to USACE regulation.

Table 3 summarizes the characteristics of the non-wetland waters/ditches and culverts in the review area that are subject to USACE jurisdiction.

7 Minimum Standards Item 6 (Aquatic Resource Narrative)
8 Minimum Standards Item 16 (Delineation Maps)
9 Minimum Standards Item 17 (Ground Photos)

Table 3. USACE Aquatic Resource Summary for the Review Area[10]

Feature Name	Cowardin[1]	OHWM Indicators	Location	Acres/Linear feet
Non-wetland Waters (Below OHWM)				
Irrigation Ditch[2]	R4SBCx	BBS, occasional CVS and CVC	Throughout review area (see Figures 4-1 through 4-10)	24.74/71,760
Culvert	N/A	N/A	Throughout review area (see Figures 5-1 through 5-23)	0.05/1,059
			Non-wetland Waters Total	**24.79/72,819**

Notes: OHWM = ordinary high water mark; R4SBCx = Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated; BBS = break in bank slope; CVS = change in vegetation species; CVC = change in vegetation cover

1 Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979).

2 These features are likely classified as seasonal "relatively permanent waters" that flow for at least 3 months of the year, based on conditions observed during the delineation.

A copy of the USACE Operations and Maintenance Business Information Link Regulatory Module (ORM) Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet is included as Appendix D.[11]

5.2 Waters of the State

All of the features described in Section 5.1, Waters of the United States, have also been identified as waters of the state. These features are subject to regulation by the RWQCB under the Porter-Cologne Water Quality Control Act and CDFW under Fish and Game Code 1600.

5.3 National Wetland Inventory

Most of the mapped non-wetland waters/ditches do not overlap with mapped resources from the U.S. Fish and Wildlife Service's National Wetland Inventory data (USFWS 2023; see Figure 3). There is one that is identified as Riverine (R4SBCx per Cowardin classification) habitats. R4SBCx is a classification code used to describe features that have the following attributes: Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated (Cowardin et al. 1979).

10 Minimum Standards Item 9 (Table Listing All Aquatic Resources)

11 Minimum Standards Item 15 (ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet)

6 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this Aquatic Resources Delineation Report, 24.79 acres of non-wetland waters/ditches and their associated culverts potentially regulated by USACE were delineated within the proposed Project site. All non-wetland waters/ditches within the review area may be regulated by USACE given their upstream or downstream connection to a traditional navigable water (the Salton Sea). These features may also be regulated by the RWQCB and CDFW.

The updated 2023 EPA guidance removed protections for aquatic features that do not have a relatively permanent, standing, or continuously flowing body of water that connects to a traditionally navigable water. When the field delineation occurred, surface water was present in all of the non-wetland waters/ditches mapped within the Project site; therefore, the waters onsite are likely considered relatively permanent waters and would not be excluded per the definition in 33 CFR, Section 328.3(b)(3). Based on site conditions observed in April 2023, the 24.79 acres of non-wetland waters/ditches and their associated culverts within the Project site contain surface water and appear to have a continuous surface connection (via ditches and canals) to the Salton Sea. Therefore, these features meet the definition of a 33 CFR, Section 328.3 (a)(3) waters.

It is the intention of the Project applicant, as reflected in the proposed Project design, that impacts to all jurisdictional or potentially jurisdictional waters on the proposed Project site will be avoided to the extent possible by design during construction and operation of the Project.

This report can be used by USACE, RWQCB, and CDFW to determine if they would regulate the features described herein.

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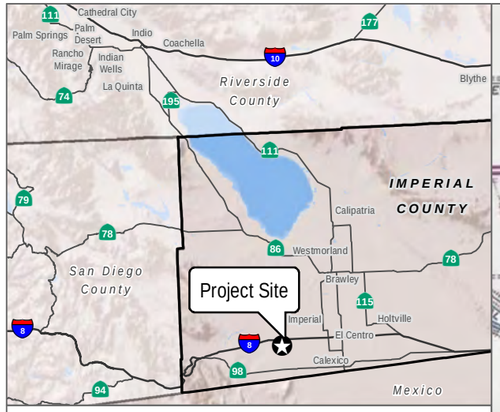
Appendix A
Figures



- Project Boundary
- Gen-Tie Line
- Alternative Gen-Tie Line
- Project BESS
- Project Substation
- Switchyard

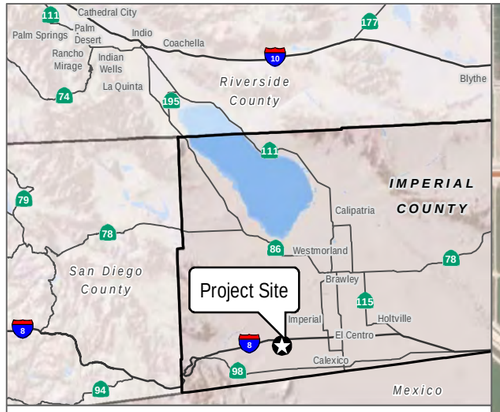
SOURCE: USGS 7.5-Minute Series Seeley, Plaster City, Mount Signal, Yuha Basin Quadrangles

DUDEK 0 1,000 2,000 Feet

FIGURE 1

Project Location

P# 15207



- Project Boundary
- Gen-Tie Line
- Alternative Gen-Tie Line
- Project BESS
- Project Substation
- Switchyard

Soils

- 102: BADLAND
- 107: GLENBAR COMPLEX
- 110: HOLTVILLE SILTY CLAY, WET
- 114: IMPERIAL SILTY CLAY, WET
- 115: IMPERIAL-GLENBAR SILTY CLAY LOAMS, WET, 0 TO 2 PERCENT SLOPES
- 118: INDIO LOAM, WET
- 119: INDIO-VINT COMPLEX
- 121: MELOLAND FINE SAND
- 122: MELOLAND VERY FINE SANDY LOAM, WET
- 123: MELOLAND AND HOLTVILLE LOAMS, WET
- 126: NILAND FINE SAND
- 130: ROSITAS SAND, 0 TO 2 PERCENT SLOPES
- 132: ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES
- 135: ROSITAS FINE SAND, WET, 0 TO 2 PERCENT SLOPES
- 142: VINT LOAMY VERY FINE SAND, WET
- 144: VINT AND INDIO VERY FINE SANDY LOAMS, WET
- 145: WATER

SOURCE: Maxar 2023; Imperial County 2023; USDA SSURGO 2023

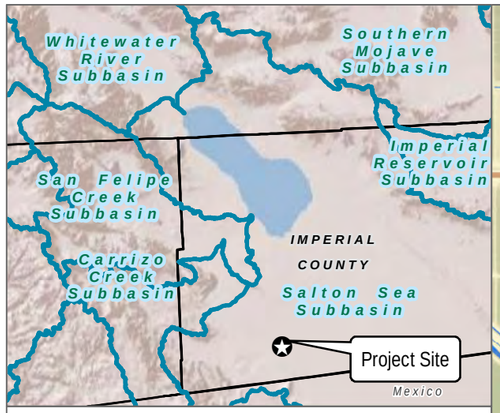
DUDEK

0 1,000 2,000 Feet

FIGURE 2

Soils

P# 15207



- Project Boundary
- Project BESS
- Project Substation
- Switchyard
- Gen-Tie Line
- Alternative Gen-Tie Line
- Subwatershed (HUC 12)
- Subbasin (HUC 8)

Watershed (HUC 10)

- Coyote Wash
- New River

NHD Flowlines

- Stream/River
- Connector

National Wetland Inventory

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Lake

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

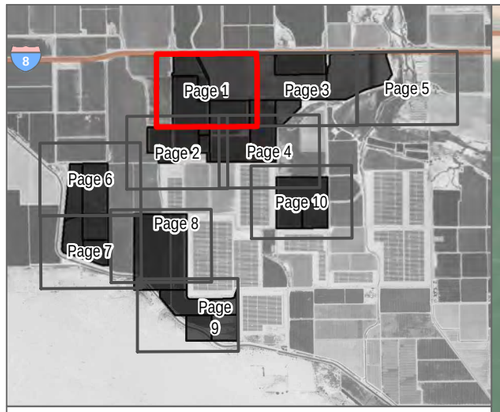
DUDEK

0 1,000 2,000 Feet

FIGURE 3

Hydrology

P# 15207



Project Boundary
Map Reference Point
Photo Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

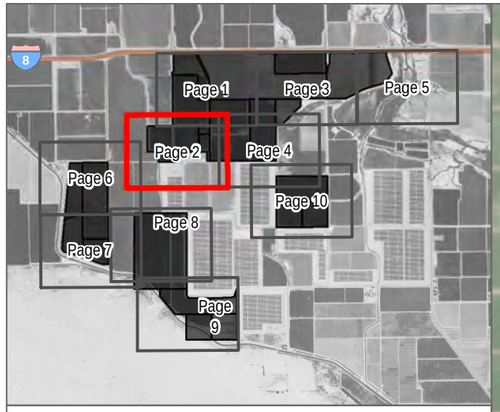
1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-1
Aquatic Resources Delineation
P# 15207



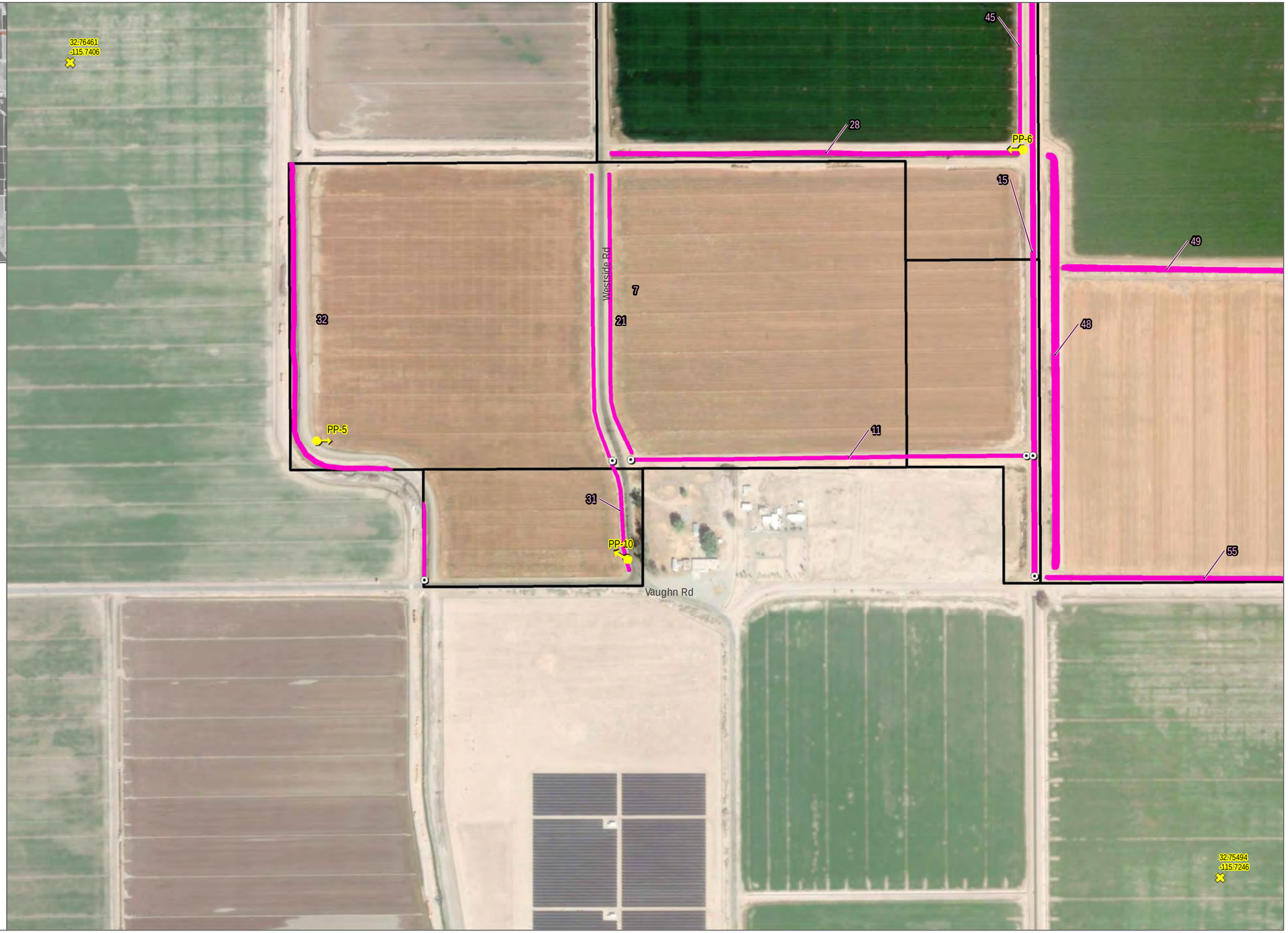
Project Boundary
Map Reference Point
Photo Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

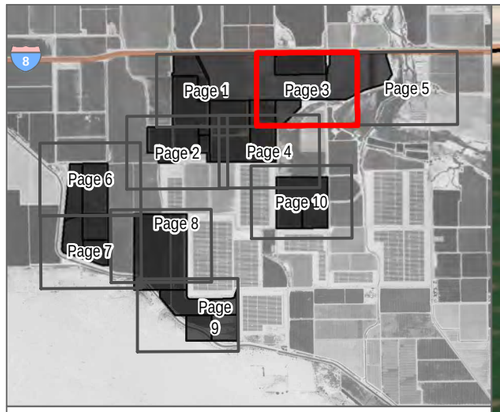


SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-2
Aquatic Resources Delineation
P# 15207



Project Boundary
Map Reference Point
Photo Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

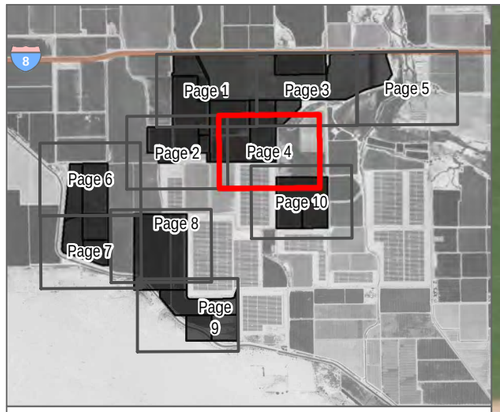
1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-3
Aquatic Resources Delineation
P# 15207



Project Boundary
Alternative Gen-Tie Line
Map Reference Point
Culvert
Potentially Jurisdictional Aquatic Features
Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

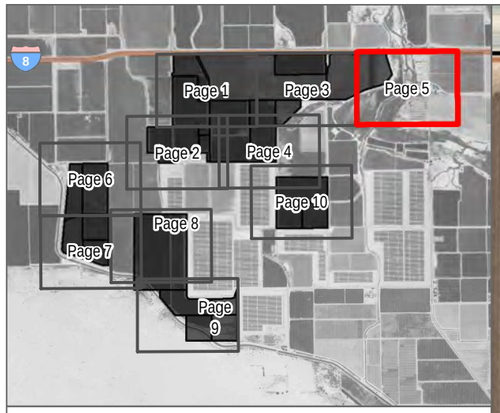
1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-4
Aquatic Resources Delineation
P# 15207



Project Boundary
Map Reference Point
Photo Point

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

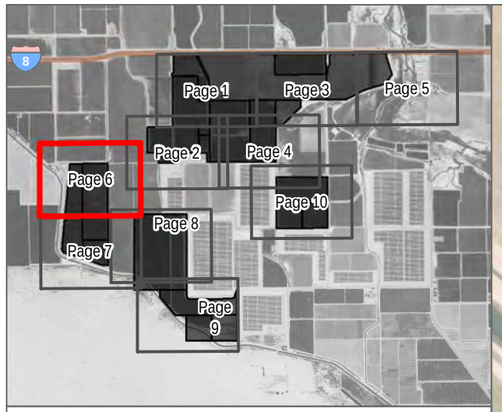
1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-5
Aquatic Resources Delineation
P# 15207



Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features
Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

32.76082
-115.7552

Vaughn Rd
Mandrapa Rd
Hyde Rd

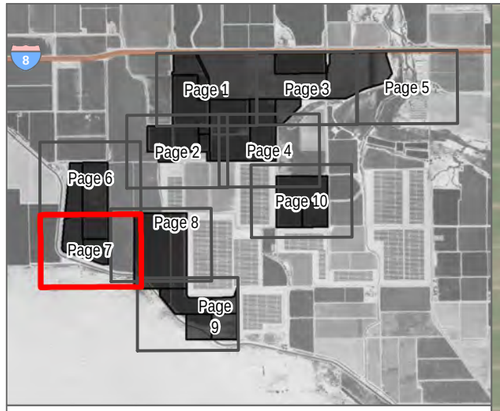
38
9
16
40
36
4
3
8
32.75135
-115.7435
32.7513
-115.7392
5
27

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-6
Aquatic Resources Delineation
P# 15207



Project Boundary
Map Reference Point
Culvert

Potentially Jurisdictional Aquatic Features

Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

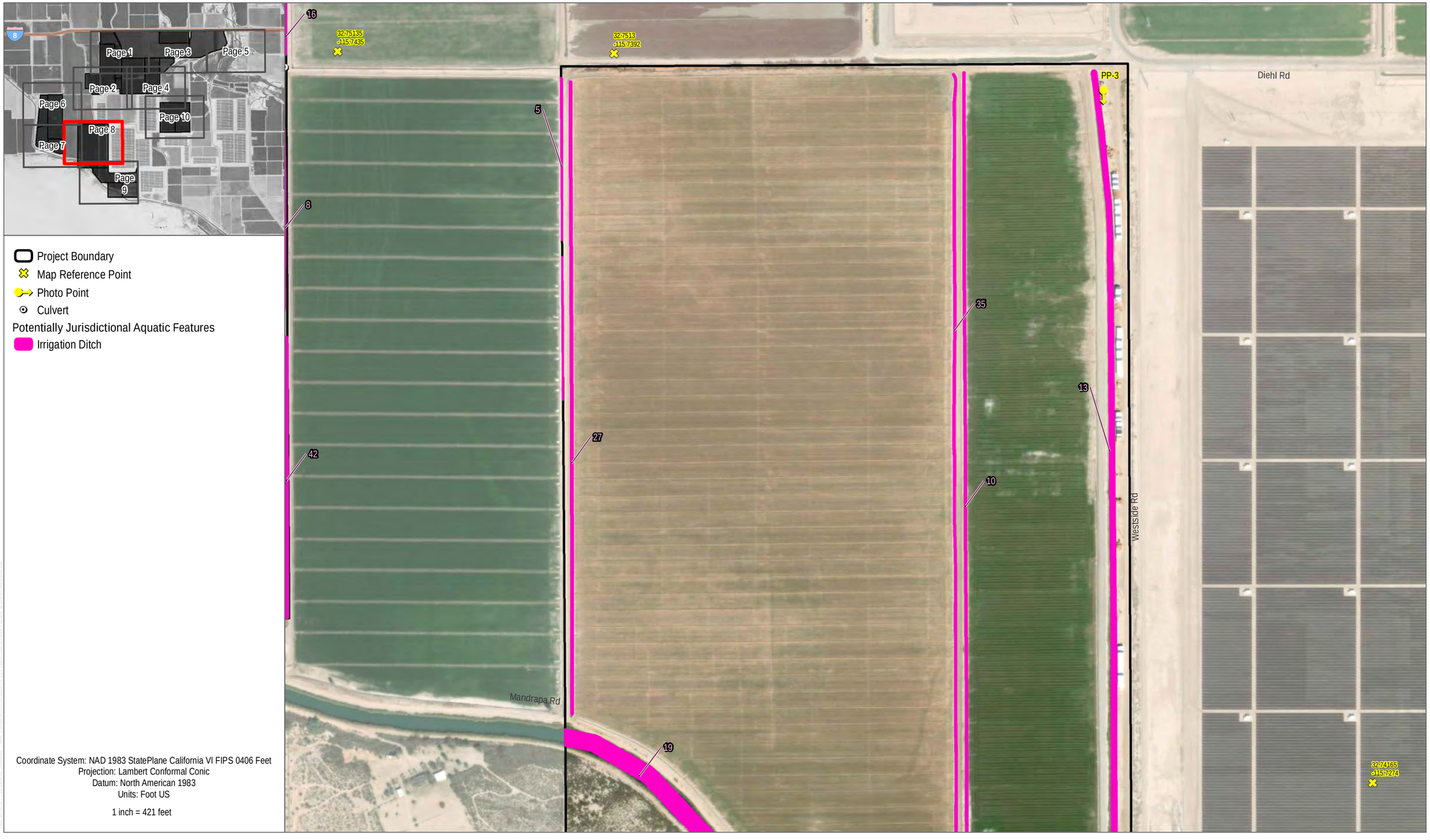
DUDEK

0 200 400 Feet

FIGURE 4-7

Aquatic Resources Delineation

P# 15207



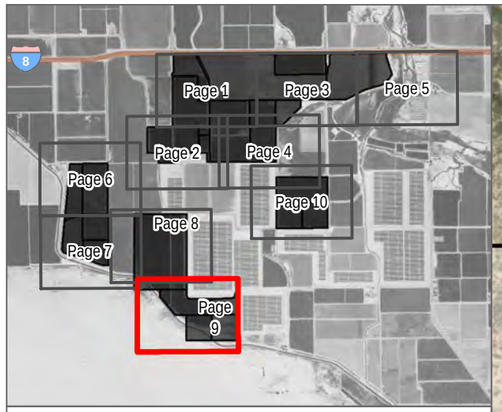
SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

FIGURE 4-8

Aquatic Resources Delineation

P# 15207



- Project Boundary
- Project BESS
- Project Substation
- Gen-Tie Line
- Map Reference Point
- Photo Point
- Culvert

Potentially Jurisdictional Aquatic Features

- Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet

SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

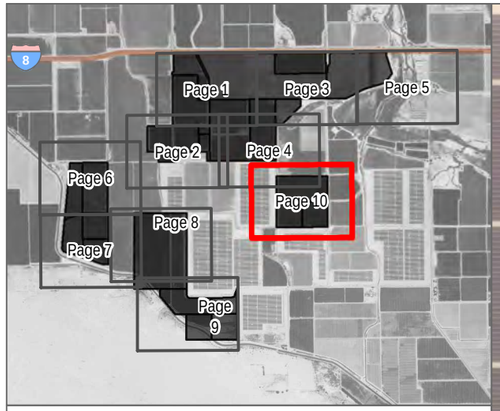
DUDEK

0 200 400 Feet

FIGURE 4-9

Aquatic Resources Delineation

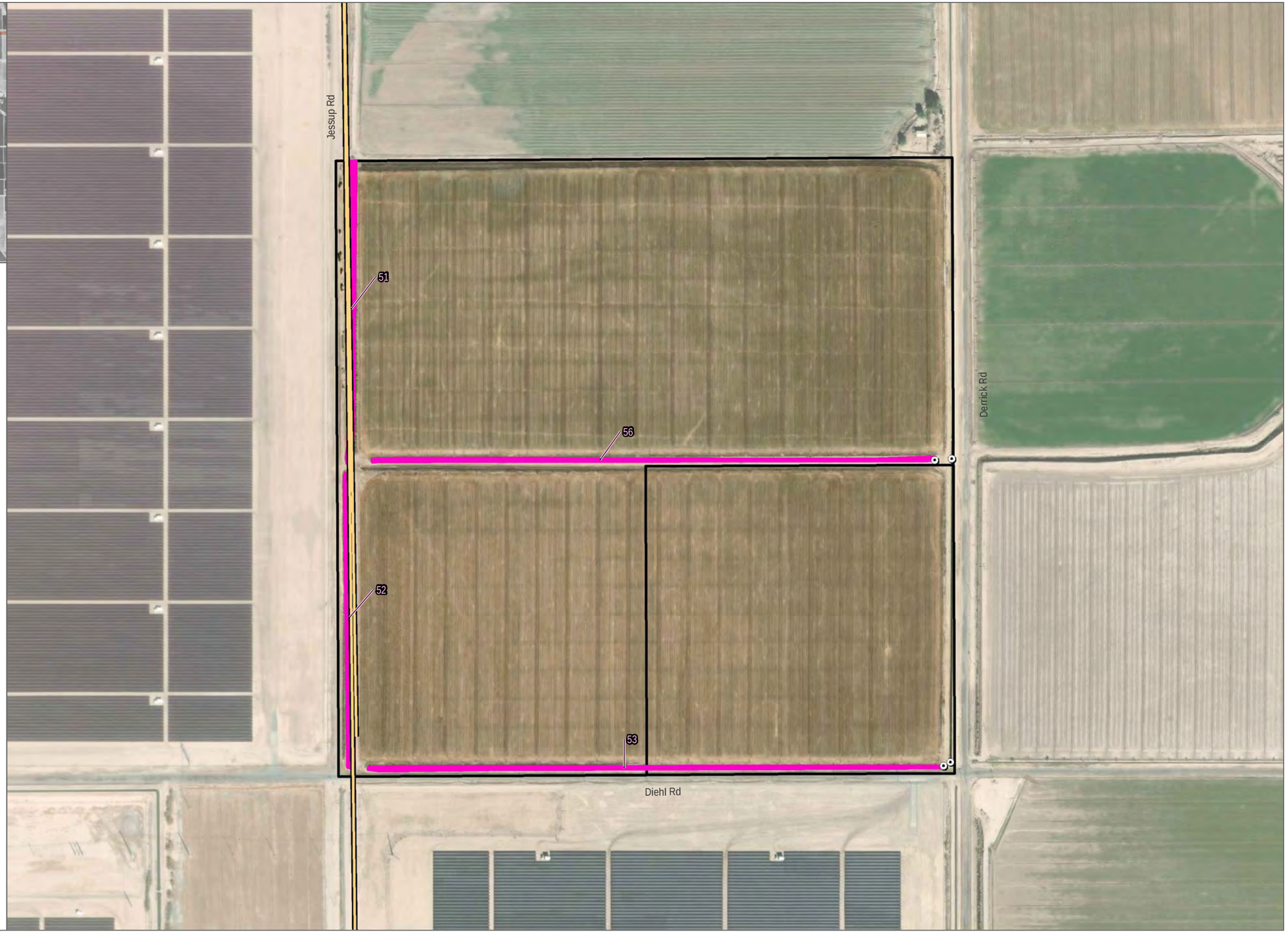
P# 15207



Project Boundary
Alternative Gen-Tie Line
Culvert
Potentially Jurisdictional Aquatic Features
Irrigation Ditch

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 421 feet



SOURCE: Maxar 2023; Imperial County 2023; USFWS 2023, USGS 2023, FEMA 2023

DUDEK

0 200 400 Feet

FIGURE 4-10
Aquatic Resources Delineation
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-20

Derrick Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-1
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-2
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-3
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

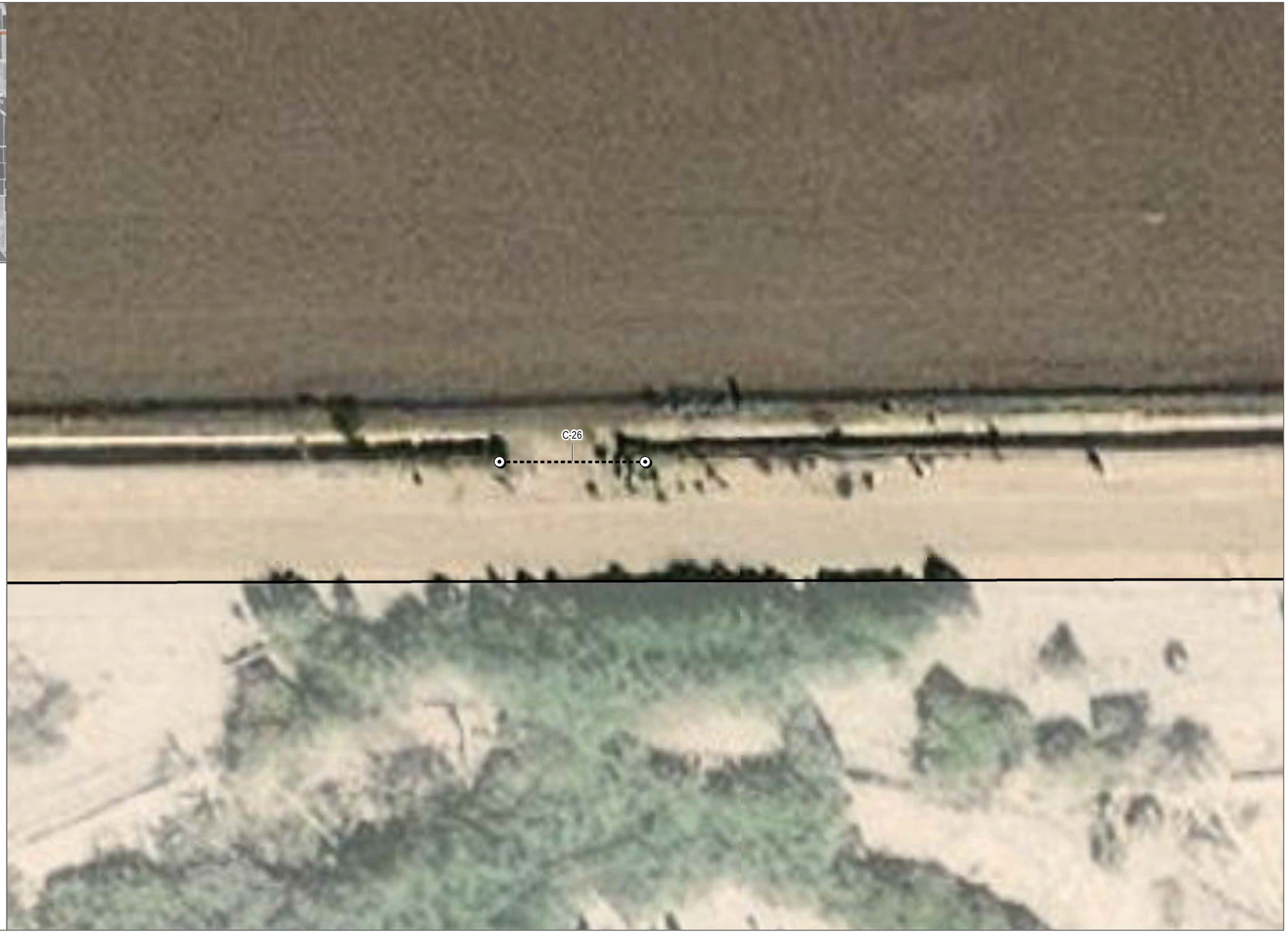
SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-4
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line



Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-5
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-19

Jessup Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

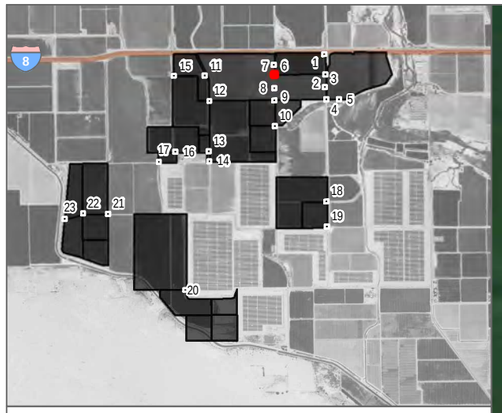
1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-6
Culverts
P# 15207



Project Boundary
Culvert Point
Culvert Line

C-16
C-18
C-17
Jessup Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

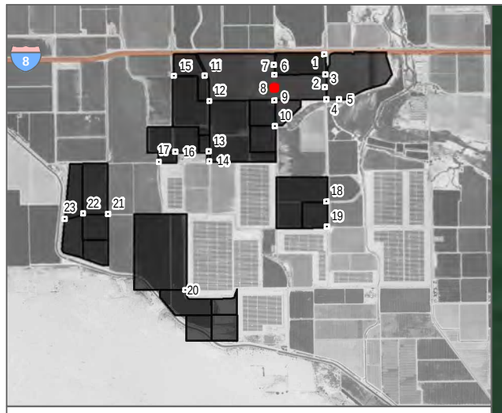
1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-7
Culverts
P# 15207



Project Boundary
Culvert Point
Culvert Line

C-15

Jessup Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-8
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK 0 10 20 Feet

FIGURE 5-9
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-10
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-11

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-11
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-12

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-12
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-13
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-6

Vaughn Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-14
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-10

Westside Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-15
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-8

Westside Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-16
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-9

Vaughn Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-17
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-5

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-18
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

C-4

Diehl Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

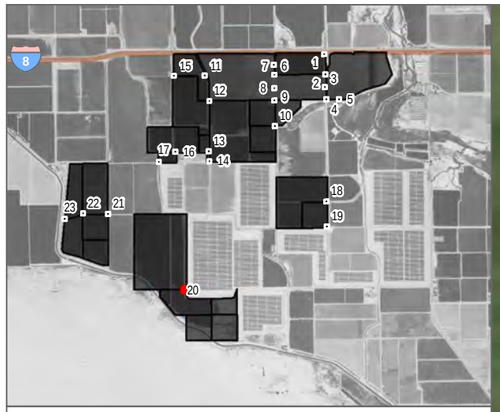
1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-19
Culverts
P# 15207



Project Boundary
Culvert Point
Culvert Line

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

C-3

Westside Rd

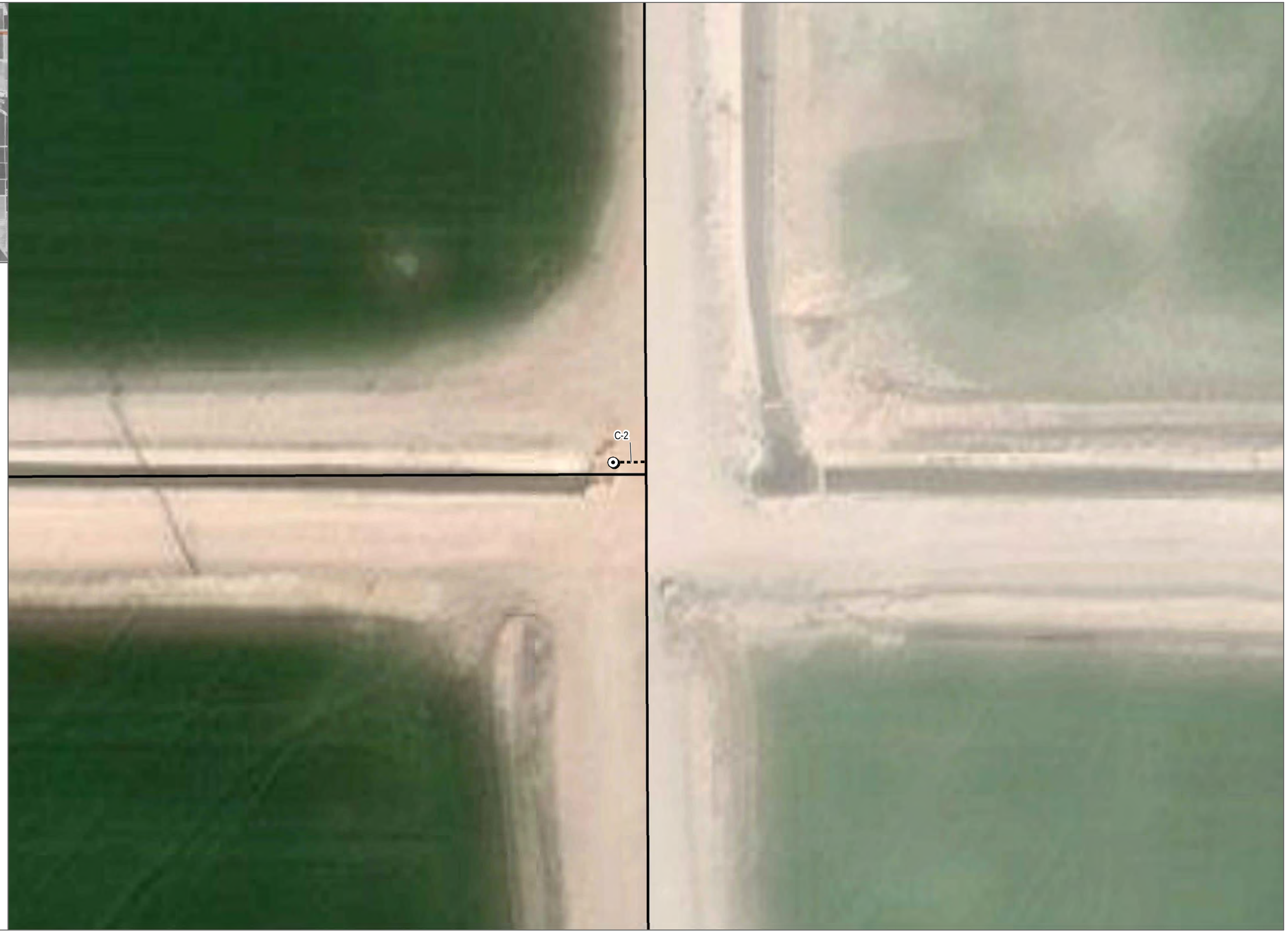
SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-20
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line



Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-21
Culverts
P# 15207

Project Boundary
Culvert Point
Culvert Line

Hyde Rd
C-1

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-22
Culverts
P# 15207

Project Boundary

Culvert Point

Mandrapa Rd

Coordinate System: NAD 1983 StatePlane California VI FIPS 0406 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

1 inch = 23 feet

SOURCE: Maxar 2023

DUDEK

0 10 20 Feet

FIGURE 5-23

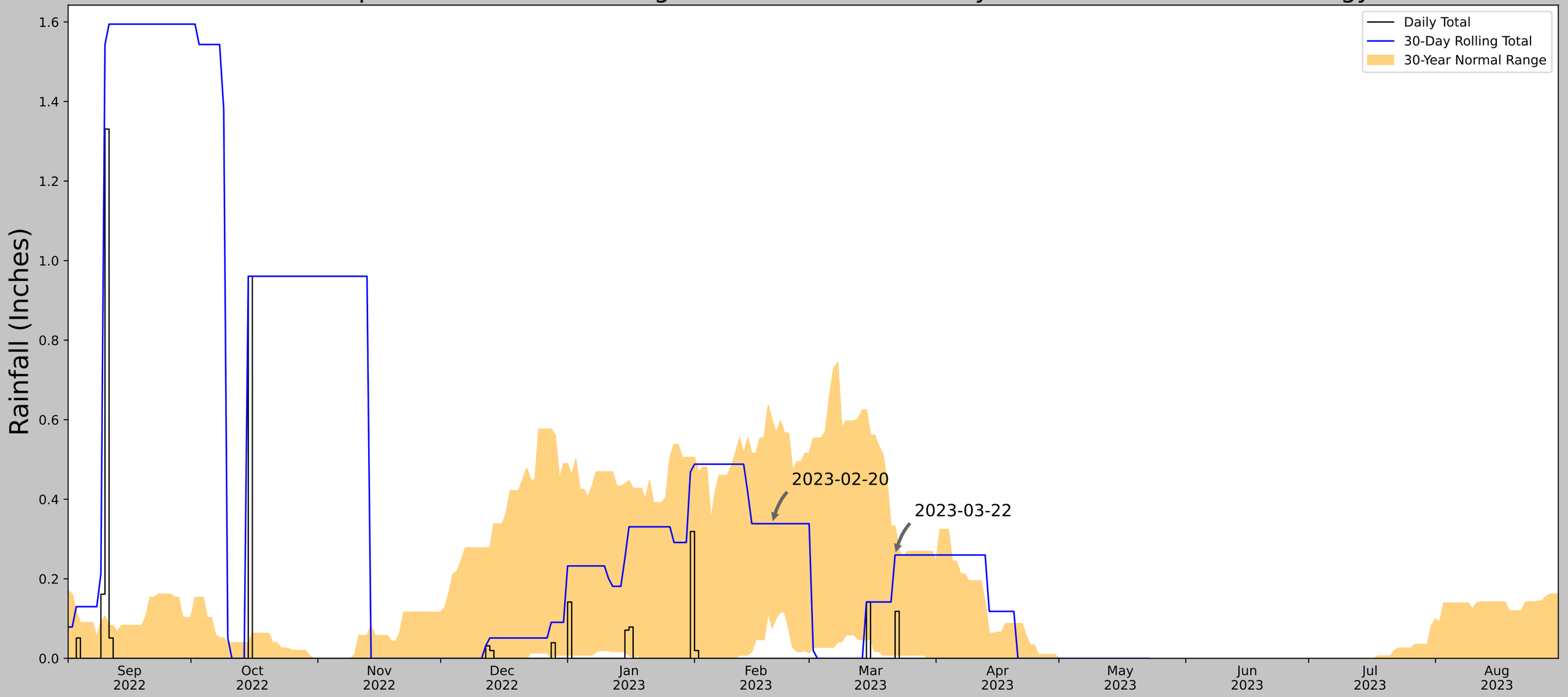
Culverts

P# 15207

Appendix B

Antecedent Precipitation Tool Output

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.75669, -115.73002
Observation Date	2023-04-21
Elevation (ft)	-38.319
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-04-21	0.0	0.087402	0.0	Normal	2	3	6
2023-03-22	0.008268	0.332283	0.259843	Normal	2	2	4
2023-02-20	0.076378	0.59685	0.338583	Normal	2	1	2
Result							Normal Conditions - 12

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
EL CENTRO 2 SSW	32.7669, -115.5617	-29.856	9.805	8.463	4.495	10804	86
IMPERIAL CO AP	32.8347, -115.5767	-55.118	4.765	25.262	2.265	390	4
IMPERIAL	32.8489, -115.5667	-63.976	5.673	34.12	2.746	159	0

Appendix C
Review Area Photos

Photo Point 1. A larger concrete irrigation ditch that runs north/south and eventually connects to the Westside Main Canal (Photo Point 14) and may be jurisdictional.

Photo Point 2: View of a smaller concrete and larger gated concrete ditch running parallel.

Photo Point 3: A typical large earthen ditch in the southern area of the site.

Photo Point 4: View of wetted earthen irrigation ponds adjacent to a smaller concrete ditch that may be jurisdictional, as it receives water from the larger Fig Canal.

Photo Point 5: View of an earthen running north/south ditch with water. This ditch connects to larger ditches and may be jurisdictional.

Photo Point 6: View of a large earthen ditch running east/west in the central portion of the site. This ditch connects to larger ditches and may be jurisdictional.

Photo Point 7: View of a likely non-jurisdictional seasonal earthen ditch used to deliver water to the adjacent agriculture field.

Photo Point 8: View of a typical concrete irrigation ditch running north/south that delivers water to smaller isolated ditches.

Photo Point 9: View of a north/south irrigation ditch with a flooded active agricultural area to the right.

Photo Point 10: A wetted concrete irrigation ditch. This ditch runs north/south for a short distance adjacent to the agriculture area it conveys water to. This ditch is closed and likely non-jurisdictional.

Photo Point 11: A view of a small wetted, seasonal earthen ditch that is likely non-jurisdictional.

Photo Point 12: View of a dry, seasonal earthen irrigation ditch that is likely non-jurisdictional, with Interstate Highway 8 in the background.

Photo Point 13: View of the larger Fern Canal that runs north/south through the northwestern area of the site, with active agriculture seen to the right. Likely jurisdictional, with eventual connectivity to the Westside Main Canal (Photo Point 14).

Photo Point 14: View of the Westside Main Canal that borders the southwestern portion of the project area.

Appendix D

ORM Upload Spreadsheet

Appendix D
ORM Bulk Upload Aquatic Resources or Consolidated Excel Spreadsheet

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
4	CALIFORNIA	R4SB		Area	0.15090373	ACRE	A3.TRIB-404	32.75117493	-115.74649048	
5	CALIFORNIA	R4SB		Area	0.05571039	ACRE	A3.TRIB-405	32.74984741	-115.74002838	
6	CALIFORNIA	R4SB		Area	0.36943884	ACRE	A3.TRIB-406	32.76901245	-115.70755768	
7	CALIFORNIA	R4SB		Area	0.16774736	ACRE	A3.TRIB-407	32.76159286	-115.73307800	
10	CALIFORNIA	R4SB		Area	0.54075873	ACRE	A3.TRIB-408	32.74563980	-115.73376465	
11	CALIFORNIA	R4SB		Area	0.27419883	ACRE	A3.TRIB-409	32.75990295	-115.73007965	
12	CALIFORNIA	R4SB		Area	0.0706309	ACRE	A3.TRIB-410	32.76803970	-115.70771027	
13	CALIFORNIA	R4SB		Area	1.80331326	ACRE	A3.TRIB-411	32.74565506	-115.73149872	
14	CALIFORNIA	R4SB		Area	0.22094966	ACRE	A3.TRIB-412	32.77072144	-115.73046875	
15	CALIFORNIA	R4SB		Area	3.08433604	ACRE	A3.TRIB-413	32.76525497	-115.72740173	
17	CALIFORNIA	R4SB		Area	0.07731558	ACRE	A3.TRIB-414	32.77145004	-115.71623993	
18	CALIFORNIA	R4SB		Area	0.09282766	ACRE	A3.TRIB-415	32.76615143	-115.71616364	
19	CALIFORNIA	R4SB		Area	2.06556273	ACRE	A3.TRIB-416	32.74142075	-115.73843384	
20	CALIFORNIA	R4SB		Area	0.06613179	ACRE	A3.TRIB-417	32.76714325	-115.70637512	
21	CALIFORNIA	R4SB		Area	0.14004992	ACRE	A3.TRIB-418	32.76158142	-115.73332977	
22	CALIFORNIA	R4SB		Area	0.03690025	ACRE	A3.TRIB-419	32.76715088	-115.70470428	
24	CALIFORNIA	R4SB		Area	0.11301442	ACRE	A3.TRIB-420	32.77071762	-115.71392822	
25	CALIFORNIA	R4SB		Area	0.09008852	ACRE	A3.TRIB-421	32.76977158	-115.71617126	
26	CALIFORNIA	R4SB		Area	0.11910388	ACRE	A3.TRIB-422	32.77070618	-115.70976257	
27	CALIFORNIA	R4SB		Area	0.48791948	ACRE	A3.TRIB-423	32.74676895	-115.73989868	
28	CALIFORNIA	R4SB		Area	0.40071779	ACRE	A3.TRIB-424	32.76349258	-115.73024750	
30	CALIFORNIA	R4SB		Area	0.17483258	ACRE	A3.TRIB-425	32.76528931	-115.71595764	
31	CALIFORNIA	R4SB		Area	0.0637867	ACRE	A3.TRIB-426	32.75922012	-115.73296356	
32	CALIFORNIA	R4SB		Area	0.98165417	ACRE	A3.TRIB-427	32.76105118	-115.73720551	
33	CALIFORNIA	R4SB		Area	0.44023177	ACRE	A3.TRIB-428	32.73704529	-115.73208618	
34	CALIFORNIA	R4SB		Area	0.08514063	ACRE	A3.TRIB-429	32.76431274	-115.71617126	
36	CALIFORNIA	R4SB		Area	0.14742877	ACRE	A3.TRIB-430	32.75083542	-115.75018311	
37	CALIFORNIA	R4SB		Area	0.08570509	ACRE	A3.TRIB-431	32.76797104	-115.71617889	
39	CALIFORNIA	R4SB		Area	0.08272728	ACRE	A3.TRIB-432	32.76976013	-115.70769501	
40	CALIFORNIA	R4SB		Area	0.28684011	ACRE	A3.TRIB-433	32.75470734	-115.74855804	
41	CALIFORNIA	R4SB		Area	0.22915435	ACRE	A3.TRIB-434	32.77227402	-115.70764923	
43	CALIFORNIA	R4SB		Area	2.95456958	ACRE	A3.TRIB-435	32.73423767	-115.72904968	
44	CALIFORNIA	R4SB		Area	0.08413167	ACRE	A3.TRIB-436	32.77288437	-115.71623993	
45	CALIFORNIA	R4SB		Area	0.34906125	ACRE	A3.TRIB-437	32.76718903	-115.72740173	
46	CALIFORNIA	R4SB		Area	1.12015676	ACRE	A3.TRIB-438	32.73638535	-115.72779083	
47	CALIFORNIA	R4SB		Area	1.16745198	ACRE	A3.TRIB-439	32.73555374	-115.73044586	
48	CALIFORNIA	R4SB		Area	0.99406278	ACRE	A3.TRIB-440	32.76112747	-115.72691345	
49	CALIFORNIA	R4SB		Area	0.67652631	ACRE	A3.TRIB-441	32.76208496	-115.72398376	
50	CALIFORNIA	R4SB		Area	0.59860855	ACRE	A3.TRIB-442	32.76436234	-115.72077179	
51	CALIFORNIA	R4SB		Area	0.81362903	ACRE	A3.TRIB-443	32.75447083	-115.71585846	
52	CALIFORNIA	R4SB		Area	1.01924801	ACRE	A3.TRIB-444	32.75080109	-115.71591187	
53	CALIFORNIA	R4SB		Area	0.65959144	ACRE	A3.TRIB-445	32.74898911	-115.71202087	
54	CALIFORNIA	R4SB		Area	0.22497077	ACRE	A3.TRIB-446	32.76093292	-115.71616364	
55	CALIFORNIA	R4SB		Area	0.43807167	ACRE	A3.TRIB-447	32.75845337	-115.72405243	
56	CALIFORNIA	R4SB		Area	0.63632029	ACRE	A3.TRIB-448	32.75261307	-115.71192169	
1	CALIFORNIA	R6		Area	0.32591072	ACRE	B3-EXCL-DITCH	32.77038574	-115.72080231	
2	CALIFORNIA	R7		Area	0.18516058	ACRE	B3-EXCL-DITCH	32.74793243	-115.74859619	
3	CALIFORNIA	R8		Area	0.16710001	ACRE	B3-EXCL-DITCH	32.75005341	-115.74858856	
8	CALIFORNIA	R9		Area	0.27882296	ACRE	B3-EXCL-DITCH	32.74771881	-115.74441528	
9	CALIFORNIA	R10		Area	0.23001304	ACRE	B3-EXCL-DITCH	32.75481796	-115.74868011	
16	CALIFORNIA	R11		Area	0.21795174	ACRE	B3-EXCL-DITCH	32.75508118	-115.74432373	
23	CALIFORNIA	R12		Area	0.1515706	ACRE	B3-EXCL-DITCH	32.74606705	-115.74860382	
29	CALIFORNIA	R13		Area	0.09282275	ACRE	B3-EXCL-DITCH	32.74477386	-115.74791718	
35	CALIFORNIA	R14		Area	0.53764641	ACRE	B3-EXCL-DITCH	32.74458313	-115.73393250	
38	CALIFORNIA	R15		Area	0.02234701	ACRE	B3-EXCL-DITCH	32.75783539	-115.75045776	
42	CALIFORNIA	R16		Area	0.55508375	ACRE	B3-EXCL-DITCH	32.74573135	-115.74435425	
C-1	CALIFORNIA	R4SB		Area	0.0011209	ACRE	A3.TRIB-432	32.75123596	-115.74853516	
C-2	CALIFORNIA	R4SB		Area	0.00034289	ACRE	A3.TRIB-432	32.75114822	-115.74433136	
C-3	CALIFORNIA	R4SB		Area	0.00242298	ACRE	A3.TRIB-432	32.74019623	-115.73146820	
C-4	CALIFORNIA	R4SB		Area	0.00154161	ACRE	A3.TRIB-432	32.74901199	-115.70760345	
C-5	CALIFORNIA	R4SB		Area	0.00336925	ACRE	A3.TRIB-432	32.75259781	-115.70762634	
C-6	CALIFORNIA	R4SB		Area	0.00141973	ACRE	A3.TRIB-432	32.75845337	-115.72721100	
C-7	CALIFORNIA	R4SB		Area	0.00124447	ACRE	A3.TRIB-432	32.75991440	-115.72727203	
C-8	CALIFORNIA	R4SB		Area	0.00356925	ACRE	A3.TRIB-432	32.75988770	-115.73295593	
C-9	CALIFORNIA	R4SB		Area	0.00135676	ACRE	A3.TRIB-432	32.75844574	-115.73571014	
C-10	CALIFORNIA	R4SB		Area	0.00316738	ACRE	A3.TRIB-432	32.77074051	-115.73316956	
C-11	CALIFORNIA	R4SB		Area	0.00147046	ACRE	A3.TRIB-432	32.77076721	-115.72783661	
C-12	CALIFORNIA	R4SB		Area	0.00157331	ACRE	A3.TRIB-432	32.76708221	-115.72711945	
C-13	CALIFORNIA	R4SB		Area	0.00122613	ACRE	A3.TRIB-432	32.76343155	-115.71616364	
C-14	CALIFORNIA	R4SB		Area	0.00090872	ACRE	A3.TRIB-432	32.76709366	-115.71616364	
C-15	CALIFORNIA	R4SB		Area	0.00108872	ACRE	A3.TRIB-432	32.76884460	-115.71617126	

Note: Acres for aquatic resources described in this datasheet, except for NWW-ICR-15, include mapping up to the top of bank.

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
C-16	CALIFORNIA	R4SB		Area	0.00209973	ACRE	A3.TRIB-432	32.77076340	-115.71617889	
C-17	CALIFORNIA	R4SB		Area	0.00127058	ACRE	A3.TRIB-432	32.77068329	-115.71613312	
C-18	CALIFORNIA	R4SB		Area	0.00312333	ACRE	A3.TRIB-432	32.77072144	-115.71601105	
C-19	CALIFORNIA	R4SB		Area	0.00134328	ACRE	A3.TRIB-432	32.77213287	-115.71623230	
C-20	CALIFORNIA	R4SB		Area	0.0035386	ACRE	A3.TRIB-432	32.77368546	-115.70779419	
C-21	CALIFORNIA	R4SB		Area	0.00147716	ACRE	A3.TRIB-432	32.77068710	-115.70760345	
C-22	CALIFORNIA	R4SB		Area	0.00157372	ACRE	A3.TRIB-432	32.77058411	-115.70760345	
C-23	CALIFORNIA	R4SB		Area	0.00134542	ACRE	A3.TRIB-432	32.77079391	-115.70759583	
C-24	CALIFORNIA	R4SB		Area	0.00095271	ACRE	A3.TRIB-432	32.76890182	-115.70769501	
C-25	CALIFORNIA	R4SB		Area	0.00452386	ACRE	A3.TRIB-432	32.76714706	-115.70744324	
C-26	CALIFORNIA	R4SB		Area	0.0015326	ACRE	A3.TRIB-432	32.76713181	-115.70538330	

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