Draft Environmental Impact Report SEPV Dixieland East and West Solar Farm Projects Imperial County, California SCH No. 2015051043



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Prepared for

County of Imperial 801 Main Street El Centro, CA 92243



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AB	Assembly Bill	CEQA	California Environmental Quality Act
ABPP	Avian and Bat Protection Plan	CERCLA	Comprehensive Environmental
AC	Alternating current		Response, Compensation and
ACEC	Area of Critical Environmental Concern		Liability Act
ACHP	Advisory Council on Historic	CESA	California Endangered Species Act
	Preservation	CFR	Code of Federal Regulations
ACM	Asbestos-containing material	CGS	California Geological Survey
ADA	Americans with Disabilities Act	CH ₄	Methane
ADT	Average Daily Traffic	CMA	Congestion Management Agency
AEP	Annual exceedance probability	CMP	Congestion Management Program
AF	Acre-feet	CNAT	California Native American Tribe
AF/AC	Acre-feet per acre	CNEL	Community Noise Equivalent Level
AFY	Acre-feet per year	CO	Carbon monoxide
ALUCP	Airport Land Use Compatibility Plan	County	Imperial County
AP	Alquist-Priolo	CO ₂	Carbon dioxide
AP Act	Alquist-Priolo Special Studies Zone Act	CO ₂ e	Carbon dioxide equivalent
APLIC	Avian Powerline Interaction Committee	CPUC	California Public Utilities Commission
APN	Assessor's Parcel Number	CPV	concentrated photovoltaic
AQAP	Air Quality Attainment Plan	CRB	Colorado River Basin
AQMP	Air Quality Management Plan	CRHR	California Register of Historic
ARB	Air Resources Board	_	Resources
AST	Aboveground storage tank	CTR	California Toxics Rule
ASTM	American Society of Testing and	cu-ft	cubic feet
	Materials	CUP	Conditional Use Permit
AWSC	All-Way Stop Controlled	CUPA	Certified Unified Program Agency
		CWA	Clean Water Act
В		0117 1	olodii Watoi Atot
BGEPA	Bald and Golden Eagle Protection Act	D	
bhp	brake horsepower	dB	Decibel
BLM	Bureau of Land Management	dBA	A-weighted decibel
BMP	Best Management Practice	DBE	Design basis earthquake
BMSL	Below mean sea level	DC	Direct current
BUOW	Burrowing owl	DDD	Dichlorodiphenyldichloroethane
BTR	Biological Technical Report	DDE	Dichlorodiphenylethylene
_		DDT	Dichlorodiphenyltrichloroethane
С		DEIR	Draft Environmental Impact Report
CAA	Clean Air Act	DESF	Dixieland East Solar Farm
CAAA	Clean Air Act Amendments	DHS	Department of Health Services
CAAQS	California Ambient Air Quality Standards	DOC	Department of Conservation
CAFÉ	Corporate Average Fuel Economy	DOE	Department of Energy
Cal-OSHA	California Occupational Safety and	DOI	Department of Interior
	Health Agency	DOGGR	Division of Oil, Gas, and Geothermal
CalARP	California Accidental Release		Resources
	Prevention	DPM	Diesel particulate matter
CalEPA	California EPA	DRECP	Desert Renewable Energy Conservation
Caltrans	California Department of Transportation		Plan
CAPCOA	California Air Pollution Control Officers	DTSC	Department of Toxic Substance Control
	Association	DWSF	Dixieland West Solar Farm
CARB	California Air Resources Board		
CBC	California Building Code	E	
CCAA	California Clean Air Act	EA	Environmental Assessment
CCCC	California Climate Change Center	EDP	Equitable Distribution Plan
CCR	California Code of Regulations	EDR	Environmental Data Research
CDFA	California Department of Food and	EHS	Environmental Health Services
	Agriculture	EIR	Environmental Impact Report
CDFW	California Department of Fish and	EIR/EA	Environmental Impact Report/
	Wildlife		Environmental Assessment
CEC	California Energy Commission		

E (continue	d)	I (continued)		
EMF	Electromagnetic field	IPCC	Intergovernmental Panel on Climate	
EOP	Emergency Operations Plan		Change	
EPA	Environmental Protection Agency	IRP	Integrated Resource Plan	
EPCRA	Emergency Planning Community Right-	IS	Initial Study	
	to-Know Act	ISF	Iris Solar Farm	
ESA	Environmental Site Assessment	ISO	Independent System Operator (Calif.)	
ESA	Endangered Species Act	IV	Imperial Valley	
ESRL	Earth System Research Laboratory	IVAG	Imperial Valley Association of	
F		IVC	Governments Imperial Valley College	
F	Fabrack - 4	IVT	Imperial Valley College Imperial Valley Transit	
	Fahrenheit	IRWMP	Imperial Integrated Regional Water	
FEMA	Federal Emergency Management Agency	IIXVVIVII	Management Plan	
FESA	Federal Endangered Species Act	IWSP	Interim Water Supply Policy	
FHWA	Federal Highway Administration			
FIFRA	Federal Insecticide, Fungicide and	K		
	Rodenticide Act	KOP	Key observation point	
FIRM	Flood Insurance Rate Maps	kV	Kilovolt	
FIT	Feed-in Tariff		Tallovoit	
FMMP	Farmland Mapping and Monitoring	L		
	Program	LCC	Land capability classification	
FSF	Ferrell Solar Farm	LCI	Landmark Consultants, Inc.	
FSZ	Farmland Security Zone	L_{dn}	Day-Night Average Sound Level	
FTA	Federal Transit Administration	LE	Land evaluation	
		L_{eq}	Equivalent Sound Level	
G		LESA	Land Evaluation and Site Assessment	
GCC	Global Climate Change	LLG	Linscott, Law and Greenspan	
GHG	Greenhouse gas	L_{max}	Maximum noise level	
GIS	Geographic information systems	LOS	Level of Service	
GS Lyon	GS Lyon Consultants, Inc.	LSF	Lyons Solar Farm	
GWP	global warming potential			
		M		
		MBTA	Migratory Bird Treaty Act	
Н		MCE	Maximum creditable earthquake	
HA	Hydrological Area	MCE _R	Risk-Targeted Maximum Considered	
HCM	Highway Capacity Manual		Earthquake	
HCP	Habitat Conservation Plan	MHMP	Multi-Hazard Mitigation Plan	
HFC	hydrofluorocarbon	MLD	Most Likely Descendant	
HFE	Hydrofluorinated ethers	MMT	Million metric tons	
HSC	Health and Safety Code	MMTCO ₂ e	Million metric tons of CO ₂ equivalent	
HU	Hydrological Unit	MOU	Memorandum of Understanding	
HVAC	Heating, ventilation, and air-conditioning	mph	miles per hour	
Hz	Hertz	MS4	Municipal Separate Storm Sewer System	
I		MSL	mean sea level	
I	Interstate	MT	Metric tons	
I-8	Interstate 8	MW	Megawatt	
IBA	Audobon Important Bird Areas	MW-h	megawatt hours	
ICAPCD	Imperial County Air Pollution Control	MWSC	Minor Street Stop Controlled	
	District			
ICEO	Imperial County Office of Education	N		
ICFD	Imperial County Fire Department	N_2	Nitrogen	
ICFD/OES	Imperial County Fire Department and	N ₂ O	Nitrous Oxide	
	Office of Emergency Services	N/A	Not Applicable	
ICPDSD	Imperial County Planning and	NAAQS	National Ambient Air Quality Standards	
	Development Services Department	NAHC	Native American Heritage Commission	
IGR	Intergovernmental Review	NCCP	Natural Community Conservation Plan	
IID	Imperial Irrigation District	NEHRP	National Earthquake Hazards Reduction	
in/sec	Inches per second	NELIDE A	Program	
IOU	Investor-owned utility	NEHRPA	National Earthquake Hazards Reduction	
			Program Act	

N (continu	red)	Q	
NF ₃	Nitrogen trifluoride	Q=CiA	Rational Method
NFIP	National Flood Insurance Program	QSA .	Quantification Settlement Agreement
NHPA	National Historic Preservation Act	QOA	Quantinoation octionent rigidential
NIMS	National Incident Management System	R	
NMFS	National Marine Fisheries Service	RCP	Degional Comprehensive Dlan
			Regional Comprehensive Plan
NO	Nitric oxide	RCRA	Resource Conservation and Recovery
NO ₂	Nitrogen dioxide	DE	Act
NOAA	National Oceanic and Atmospheric	RE	Renewable Energy
NO	Administration	REC	Renewable-Energy Credits
NOI	Notice of Intent	RECUP	Renewable Energy Conditional Use
NOP	Notice of Preparation		Permit
NO _x	Nitrogen Oxide	ROW	Right-of-way
NPPA	Native Plant Protection Act	RPS	Renewable Portfolio Standard
NRCS	Natural Resources Conservation	RPW	Relatively permanent water
	Service	RSF	Rockwood Solar Farm
NPDES	National Pollutant Discharge Elimination	RTP	Regional Transportation Plan
	System	RTP/SCS	Regional Transportation Plan/
NRHP	National Register of Historic Places	11117000	Sustainable Communities Strategy
_		RWQCB	Regional Water Quality Control Board
0		TWAGE	Regional Water Quality Control Board
O ₂	Oxygen Ozone	S	
O ₃		SA	Site assessment
O&M	Operations and Maintenance	SARA	Superfund Amendments and
OA	Operational Area		Reauthorization Act
OES	Office of Emergency Services	SCAG	Southern California Association of
OHP	Office of Historic Preservation		Governments
OHW	Ordinary high water	SCAQMD	South Coast Air Quality Management
OHWM	Ordinary high water mark		District
OPR	Governor's Office of Planning and	SCH	State Clearinghouse
	Research	SCIC	South Coastal Information Center
OSHA	Occupational Safety and Health	SCS	Sustainable Communities Strategy
	Administration	SDG&E	San Diego Gas and Electric
		SDI	Supply/demand imbalance
<u>P</u>		SDSU	San Diego State University
Pb	Lead	SF ₆	Sulfur hexafluoride
PCBs	Polychlorinated biphenyls	SIP	State Implementation Plan
PCE	Passenger Car Equivalent	SMARA	Surface Mining and Reclamation Act
PFC	perfluorocarbon	SO ₂	Sulfur Dioxide
PGA	Peak ground	SPA	Specific Plan Area
PGA_{M}	Maximum Considered Earthquake	SPCC	Spill Prevention, Control, and
	Geometric Mean peak ground	01 00	Countermeasures
	acceleration	sq-ft	
PI	Principal Investigator	SQ-II SR	square feet
PM _{2.5}	Particulate Matter Less Than 2.5		State Route
1 1112.5	Microns in Diameter	SSAB	Salton Sea Air Basin
PM ₁₀	Particulate Matter Less Than 10 Microns	SWPPP	Stormwater Pollution Prevention Plan
1 14110	in Diameter	SWRCB	State Water Resources Control Board
POE	Point of entry	-	
POU	Publicly owned utility	<u>T</u>	
		TAC	Toxic air contaminant
PPA	Power Purchase Agreement	tCO2e	Tonnes of carbon dioxide equivalents
ppb	Parts per billion	TIS	Traffic Impact Study
ppm	Parts per million	TMDL	Total maximum daily load
PPV	Peak particle velocity	TNW	Traditional navigable water
PRC	Public Resources Code	TSS	Total suspended solids
PTR	Preferred Transmission Route		•
PUC	Public Utilities Commission	U	
PV	Photovoltaic	UBC	Uniform Building Code
PVC	Polyvinyl chloride	USACE	United States Army Corps of Engineers
		· • -	

U (continued		V		
United States Code	V/C	Volume to Capacity Ratio		
United States Department of Agriculture				
United States Environmental Protection	W			
Agency	WSA	Water Supply Assessment	Ī	
United States Fish and Wildlife Service				
United States Geological Survey	0	dearees		
Underground storage tank	ua/m³	•		
United States Environmental Protection	. •	• •		
Agency	0.2	Three dimensional		
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0.1 EXECUTIVE SUMMARY

0.1.1 PROJECT OVERVIEW

This Environmental Impact Report (EIR) has been prepared in compliance with the California Environmental Quality Act (CEQA) Public Resources Code Section 21000 et seq., the CEQA Guidelines (Section 15000 et seq.) as promulgated by the California Resources Agency and the Governor's Office of Planning and Research. The purpose of this environmental document is to assess the potential environmental effects associated with the SEPV Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF) Projects and to propose mitigation measures, where required, to reduce significant impacts.

The proposed projects (DESF and DWSF facility sites) would consist of construction and operation of a photovoltaic (PV) solar energy facility and supporting uses. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. The major components of the facility are PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert the electricity from the PV modules from direct current ("DC") electricity to alternating current ("AC") electricity and transfer the electricity to IID's existing Dixieland Substation. Ancillary equipment includes switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment. In addition, a major component of the projects would be the restoration of the project sites to pre-project conditions once the facilities are no longer in use.

Two separate Conditional Use Permit (CUP) applications have been filed by the project applicant for each of the projects.

The proposed projects are located on privately owned, undeveloped, but partially disturbed land encompassing approximately 53 acres. The project area is located in the Dixieland area in unincorporated Imperial County. The project sites are located adjacent to the existing Dixieland Substation, which is located between the two project sites.

Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-18700) that runs north-south along Broadway Avenue by way of a gen-tie line that would cross Brown Avenue and run east-west along the southern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement on the DWSF site. The electricity generated by the projects would be used to serve local load demand on the IID distribution circuits.. The details of each of the solar projects is further described and depicted in Chapter 3.0, Project Description.

0.1.2 PURPOSE OF AN EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

0.1.3 ELIMINATED FROM FURTHER REVIEW IN NOTICE OF PREPARATION

Based on the Initial Study and Notice of Preparation (IS/NOP) prepared for the proposed projects (Appendix A), Imperial County has determined that the proposed projects would not have the potential to

cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR; however, the rationale for eliminating these topics is briefly discussed below.

Forestry Resources

The project sites are located on privately owned, undeveloped, but partially disturbed land. No portion of the project sites (or the immediate vicinity) is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the projects would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed projects would not impact forestry resources.

Mineral Resources

The project sites are not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to the Conservation and Open Space Element of the County of Imperial General Plan, no known mineral resources occur within the project sites nor do any of the project sites contain mapped mineral resources. As such, the proposed projects would not adversely affect the availability of any known mineral resources.

Recreation

The proposed projects would not generate new employment on a long-term basis. As such, the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the projects do not include or require the expansion of recreational facilities. No impact will occur.

Population/Housing

The project sites are currently vacant. Development of housing is not proposed as part of the projects. The facilities would be remotely operated, controlled and monitored and with no requirement for daily onsite employees. The proposed projects would not result in a substantial population growth, as the number of employees required to operate and maintain the facilities is minimal. Therefore, no impact is identified for population and housing.

Public Services (Schools, Parks and Other Facilities)

The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations.

Additionally, operation of the proposed projects would require minimal part-time staff for maintenance. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities (such as post offices) are not expected.

Utilities (Wastewater, Stormwater, and Solid Waste)

The projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. The proposed projects would not exceed wastewater treatment requirements of the Regional Water Quality Control Board. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water from water use

0.1-2

involving solar panel washing. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed projects would not substantially alter the existing drainage pattern of the site, substantially increase the rate of runoff, or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. No IID drains or canals will be removed or relocated within the project. A less than significant impact is identified for these issue areas.

During construction and operation of the projects, waste generation will be minor. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. There are over 40 solid waste facilities listed in Imperial County in the CalRecycle database. Trash would likely be hauled to the Imperial Solid Waste Site located approximately nine miles northeast from the project area. The facility has approximately 183,804 cubic yards of capacity remaining (reporting date May 2012). The Imperial Solid Waste Site has a maximum permitted throughput of 18 tons/day and is estimated to remain in operation until March 1, 2019 (http://www.calrecycle.ca.gov/SWFacilities/Directory/13-AA-0001/Detail/). Therefore, there is ample landfill capacity to receive the minor amount of solid waste generated by project construction and operation. Additionally, because the proposed projects would generate solid waste during construction and operation, they will be required to comply with State and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP for each project site will contain provisions for recycling and diversion of construction waste per policies of the County.

0.1.4 SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES THAT REDUCE OR AVOID THE SIGNIFICANT IMPACTS

Based on the analysis presented in the IS/NOP and the information provided in the comments to the IS/NOP, the following environmental topics are analyzed in this EIR.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- · Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation/Traffic
- Utilities/Service Systems

Table 0.1-1 summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the project.

0.1.5 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

Areas of Concern

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy as well as issues to be resolved known to the Lead Agency, including issues raised by other agencies and the public. Through the course of the environmental review process for these projects, areas of concern and issues to be resolved include potential impacts related to aesthetics, biological resources, water supply, and obstruction of planned IID transmission line routes.

Detailed analyses of these topics are included within each corresponding section contained within this document.

TABLE 0.1-1. SUMMARY OF PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Agriculture			
Adversely Affect Agricultural Productivity	Potentially Significant	The following mitigation measure is required for the DESF and DWSF. AG-1. Prior to the issuance of a grading permit or building permit (whichever occurs first), a Weed and Pest Control Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The plan shall provide the following:	Less than Significant
		 Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line); 	
		 Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows; 	
		 Monitor for all pests including insects, vertebrates, weeds, and pathogens. Promptly control or eradicate pests when found, or when notified by the Agricultural Commissioner's office that a pest problem is present on the project site; All treatments must be performed by a qualified applicator or 	
		 All treatments must be performed by a qualified applicator or a licensed pest control operator; 	
		 "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments; 	
		 Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species such as A- and Q-rated pest species as defined by the California Department of Food and Agriculture (CDFA). Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or CDFA; 	
		 Obey all pesticide use laws, regulations, and permit conditions; 	
		 Access shall be allowed by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties; 	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		 All project employees that handle pest control issues shall be appropriately trained and certified, and all required records shall be maintained and made available for inspection. All required permits shall be maintained current; 	
		 Records of pests found and controlled shall be maintained and available for review, or submitted to the Agricultural Commissioner's office on a quarterly basis; 	
		A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:	
		 Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on adjacent agricultural lands. 	
Air Quality			
Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation	Less than Significant	The following mitigation measures are required for DESF and DWSF. Records sufficient to document compliance with mitigation measures shall be maintained on site at all times and available for ICAPCD inspection. AQ-1 Construction Equipment. The operator shall insure the use of Tier 2 vehicles or the equivalent alternative fueled or catalyst equipped diesel construction equipment, where practicable, including all off-road and portable diesel powered equipment. AQ-2 Fugitive Dust Control. Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be	Less than Significant
		implemented prior to and during construction. The County Department of Public Works will verify implementation and compliance with these measures as part of the grading permit review/approval process.	
		ICAPCD Standard Measures for Fugitive Dust (PM ₁₀) Control	
		 The operator shall insure that all disturbed areas, including bulk material storage, which is not being actively utilized, will be effectively stabilized and visible emissions will be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust 	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		suppressants, tarps, or other suitable material such as vegetative ground cover.	
		The operator shall insure that all on-site unpaved roads will be effectively stabilized and visible emissions be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.	
		The operator shall insure that all transport (import or export) of borrow material used as cover material will be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of borrow material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.	
		The operator shall insure that all track-out or carryout will be cleaned at the end of each workday.	
		ICAPCD "Discretionary" Measures for Fugitive Dust (PM10) Control	
		 Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities. 	
		Replace ground cover in disturbed areas as quickly as possible.	
		 Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. 	
		Implement the trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees.	
		Implement a shuttle service to and from retail services and food establishments during lunch hours.	
		Standard Mitigation Measures for Construction Combustion Equipment	
		Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.	
		Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.	
		Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the amount of equipment in use.	
		Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		To help provide a greater degree of reduction of PM emissions from construction combustion equipment the ICAPCD recommends the following enhanced measures.	
		Enhanced Mitigation Measures for Construction Equipment	
		Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.	
		 Implement activity management (e.g., rescheduling activities to reduce short-term impacts). 	
		AQ-3 Dust Suppression. The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/OES Department).	
		AQ-4 Dust Suppression Management Plan. Prior to any earthmoving activity, the applicant shall submit and obtain approval from the ICAPCD and Imperial County Planning and Development Services Department (ICPDSD) a construction Dust Control Plan. Prior to the issuance of a Certificate of Occupancy, the applicant shall submit and obtain approval from the ICAPCD and ICAPDSD an Operations Dust Control Plan.	
		ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are submitted for the proposed projects, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the proposed projects.	
Biological Resources			
Possible Habitat Modification – Burrowing Owl	Potentially Significant	The following mitigation measures are required for DESF and DWSF.	Less than Significant
		BR-1 Burrowing Owl Mitigation. The following measures will avoid, minimize, or mitigate potential impacts to burrowing owl during construction activities:	
		 Within 30 days prior to initiation of construction, pre-construction clearance surveys for burrowing owl shall be conducted by qualified and agency-approved biologists to determine the presence or absence of this species within the project footprint. This is necessary, 	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		as burrowing owls may not use the same burrow every year; therefore, numbers and locations of burrowing owl burrows at the time of construction may differ from the data collected during previous focused surveys. The proposed project footprint shall be clearly demarcated in the field by the project engineers and biologist prior to the commencement of the pre-construction clearance survey. The surveys shall follow the protocols provided in the <i>Burrowing Owl Survey Protocol and Mitigation Guidelines</i> .	
		2. If active burrows are present within the project footprint, the following mitigation measures shall be implemented. Passive relocation methods are to be used by the biological monitors to move the owls out of the impact zone. Passive relocation shall only be done in the non-breeding season 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. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. The burrows shall then be excavated and filled in to prevent their reuse. The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts. The construction of new burrows will take place within open areas in the solar fields such as detention basins.	
		3. As the project construction schedule and details are finalized, an agency-approved biologist shall prepare a Burrowing Owl Mitigation and Monitoring Plan that will detail the approved, site-specific methodology proposed to minimize and mitigate impacts to 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 the CDFW. The Mitigation and Monitoring Plan shall include success criteria, remedial measures, and an annual report to CDFW and shall be funded by the project applicant to ensure long-term management and monitoring of the protected lands.	
		BR-2 Worker Awareness Program. Prior to project initiation, a Worker Environmental Awareness Program (WEAP) 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	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		all construction, operation, and maintenance personnel. The education program shall include the following aspects:	
		 Biology and status of the burrowing owl; CDFW/USFWS regulations; Protection measures designed to reduce potential impacts to the species, function of flagging designated authorized work areas; Reporting procedures to be used if a burrowing owl (dead, alive, injured) is encountered in the field. 	
		BR-3 Speed Limit. 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 when driving access roads. All vehicles required for O&M must remain on designated access/maintenance roads. 	
Possible Habitat Modification – Colorado Valley Woodrat	Potentially Significant	The following mitigation measure is required for DESF and DWSF.	Less than Significant
		BR-4 Temporary Construction Suspension. During the clearing and grubbing of the project sites, a Designated Biological Monitor shall be present to relocate and remove any potential sensitive species that may have been unaccounted for during focused surveys and habitat assessment. Construction shall cease until sensitive species have been relocated from the project sites.	
Possible Habitat Modification - Migratory and Other Sensitive Non-Migratory Bird Species:	Potentially Significant	The following mitigation measures are required for DESF and DWSF. BR-5 Construction and O&M Mitigation Measures. In order to reduce the potential indirect impact to migratory birds, bats and raptors, an Avian Bat Protection Plan ABPP shall be prepared following the USFWS's guidelines and implemented by the project applicant. This ABPP shall outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations and shall be developed by the project applicant in conjunction with and input from the USFWS.	Less than Significant
		Construction conservation measures to be incorporated into the ABPP include:	
		 Minimizing disturbance to vegetation to the 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. Preconstruction nesting surveys will identify any active migratory birds (and other sensitive non-migratory birds) nests. If a nesting bird is 	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		detected, the area will be avoided and a 100-foot buffer will be installed until the nesting birds have fledged and have been observed to be foraging independently. In the event the red-tail hawk nest is active, a 300-foot buffer shall be installed around the hawk nest until the birds are observed to be foraging independently. Direct impact to any active migratory bird nest should be avoided.	
		Minimize wildfire potential.	
		 Minimize activities that attract prey and predators. 	
		5. Control of non-native plants.	
		O&M conservation measures to be incorporated into the ABPP include:	
		 Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). 	
		2. Minimize noise.	
		Minimize use of outdoor lighting.	
		 Implement post-construction avian monitoring that will incorporate of the Wildlife Mortality Reporting Program. 	
		BR-6 Raptor and Active Raptor Nest Avoidance. Raptors and active raptor nests are protected under CFGC 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures shall be implemented:	
		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 or transmission towers) that occurs within 300 feet of the site. If any active raptor nest is located, the nest area will be flagged, and a 300-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until a qualified biologist determines that the fledglings are independent of the nest.	
Cultural Resources			
Impact to Archaeological Resources	Potentially Significant	The following mitigation measures are required for DESF and DWSF.	Less than Significant
		CR-1. Pursuant to CEQA Guidelines §15064.5(f), in the event that previously unidentified unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until significance and the appropriate mitigation measures are determined by a qualified archaeologist familiar with the resources of the region.	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.	
		CR-2. In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, and scrapers) or tool making debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act (NAGPRA), the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph.	
		In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it cannot be avoided, the applicant shall implement an archaeological data recovery program.	
Impact to Paleontological Resources	Potentially Significant	The following mitigation measure is required for DESF and DWSF. CR-3. A County-approved qualified paleontological monitor shall be present during excavation activities associated with project construction. The depth of excavation that requires paleontological monitoring shall be determined by the paleontological monitor and the construction contractor based on initial observations during construction earth moving. The paleontological monitor will be equipped to salvage fossils as they are unearthed (to help avoid construction delays). Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens shall be prepared to a point of identification and permanent preservation. Fossil specimens shall be curated by accessioning them into an established, accredited museum repository with permanent retrievable	Less than Significant

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		paleontological storage. A report of findings with an appended itemized inventory of specimens will be prepared. The report and inventory, when submitted to the Imperial County Department of Planning and Development Services, along with confirmation of the curation of recovered specimens into an established, accredited museum repository, will signify completion of the program to mitigate impacts to paleontological resources. In general, a paleontological monitor will not be required after possible fossil bearing sediments have been excavated. The monitor is not required during the construction phase when the steel posts for the arrays are installed.	
Impact to Human Remains	Potentially Significant	The following mitigation measure is required for DESF and DWSF. CR-4 Human Remains. In the event that any human remains or related resources are discovered on the project site, such resources shall be treated in accordance with federal, state, and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate. All construction affecting the discovery site shall cease until, as required by CEQA Guidelines, Section 156064.5(e), the human remains are evaluated by the County Coroner for the nature of the remains and cause of death. All parties involved would ensure that any such remains are treated in a respectful manner and that all applicable federal, state, and local laws are followed. If human remains are found to be of Native American origin, or if associated grave goods or objects of cultural patrimony are discovered, the provisions of NAGPRA would be followed, and the Native American Heritage Commission shall be asked to determine the most likely descendants who are to be notified or, if unidentifiable, to establish the procedures for burial.	Less than Significant
Geology and Soils		or, ii dindontinasio, to obtasion die procedures foi sunai.	
Possible Risks to People and Structures Caused by Strong Seismic Ground Shaking	Potentially Significant	The following mitigation measure is required for DESF and DWSF. GEO-1 Incorporate Site-Specific Recommendations from Geotechnical Report(s) Into Project Design. Facility design for all project components shall comply with the site-specific design recommendations as provided in the Dixieland East Solar Farm Geotechnical Investigation Report (June 2015) and Dixieland West Solar Farm Geotechnical Investigation Report (June 2015) prepared by Landmark Consultants, Inc The following site-specific recommendations shall be implemented by the project applicant: Site preparation; Foundations and settlements; Drilled piers; Driven steel posts; Concrete mixes and corrosivity;	Less than Significant

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
	-	 Excavations; Seismic design; Soil erosion factors for SWPPP Plans; and Pavements. 	-
Greenhouse Gas Emissions	T		
Generate Greenhouse Gas Emissions, Either Directly or Indirectly, that may have a Significant Impact on the	Less than Significant	The following mitigation measures are required for DESF and DWSF. GHG-1 Diesel Equipment (Compression Ignition) Offset Strategies	Less than Significant
Environment.		 use electricity from power poles rather than temporary diesel power generators. 	
		 Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines. 	
		c. Construction equipment used for the project should utilize EPA Tier 2 or better engine technology (requirement under Mitigation Measure AQ-1 as described in Chapter 4.3, Air Quality of this EIR).	
		GHG-2 Vehicular Trip (Spark Ignition) Offset Strategies	
		a. Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e., post transit schedules/routes).	
		b. Help construction employees "ride share" by posting commuter ride sign-up sheets, employee home, zip code, map, etc.	
		c. When possible, arrange for single construction vendor who makes deliveries for several items.	
		d. Plan construction delivery routes to eliminate unnecessary trips.	
		Keep construction vehicles well maintained to prevent leaks and minimize emissions.	
Hydrology/Water Quality			
Violation of Water Quality Standards During Construction	Potentially Significant	The following mitigation measures are required for DESF and DWSF.	Less than Significant
		HWQ-1 Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the project applicant prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP(s) shall incorporate control measures in the following categories:	
		 Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching); 	
		Dewatering and/or flow diversion practices, if required (see Mitigation Measure HWQ-2);	
		Sediment control practices (temporary sediment basins, fiber rolls);	
		Temporary and post-construction on- and off-site runoff controls;	
		 Special considerations and BMPs for water crossings, wetlands, and drainages; 	
		 Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity; 	
		Waste management, handling, and disposal control practices;	
		Corrective action and spill contingency measures;	
		Agency and responsible party contact information, and	
		 Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP. 	
		The SWPPP shall be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.	
		HWQ-2 Properly Dispose of Construction Dewatering in Accordance with the Colorado River Basin Regional Water Quality Control Board. If required, all construction dewatering shall be discharged to an approved land disposal area or drainage facility in accordance with Colorado River Basin RWQCB requirements. The project applicant or its construction contractor	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		shall provide the Colorado River Basin RWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.	
Violation of Water Quality Standards During Operation	Potentially Significant	The following mitigation measure is required for DESF and DWSF. HWQ-3 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan and Maximize Opportunities for Low Impact Development. The project Drainage Plan shall adhere to County and IID guidelines to treat, control, and manage the on- and off-site discharge of stormwater to existing drainage systems. Low Impact Development opportunities, including but not limited to infiltration trenches or bioswales, will be investigated and integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short- and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.	Less than Significant
		The project applicant shall ensure the provision of sufficient outlet protection through the use of energy dissipaters, vegetated rip-rap, soil protection, and/or other appropriate BMPs to slow runoff velocities and prevent erosion at discharge locations, access roads, electrical distribution, and solar array locations. A long-term maintenance plan shall be developed and implemented to support the functionality of drainage control devices. The facility layout(s) shall also include sufficient container storage and on-site containment and pollution-control devices for drainage facilities to avoid the off-site release of water quality pollutants, including, but not limited to oil and grease, fertilizers, treatment chemicals, and sediment.	
Noise and Vibration			
Temporary, Short-Term Exposure of Sensitive Receptors to Increased Equipment Noise from Project Construction.	Less Than Significant	The following mitigation measures are required for DESF and DWSF. NOI-1 Limit Construction Hours. Construction and decommissioning activities shall be limited to daylight hours between 7 AM and 7 PM Monday through Friday, and 9 AM and 5 PM on Saturday for those construction areas that are located within 2,500 feet of noise-sensitive receptors. No construction shall be allowed on Sundays or holidays.	Less Than Significant
		NOI-2 Minimize Noise from Construction Equipment and Staging. Construction equipment noise shall be minimized during project construction and decommissioning by muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications) and by shrouding or shielding impact tools, where used. The project applicant's construction specifications shall also require that the contractor select staging	

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		areas as far as feasibly possible from sensitive receptors. All contractor specifications shall include a requirement that equipment located within 2,500 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings or other noise reducing technology such that noise levels are no more 85 dBA at 50 feet. If necessary the line of sight between the equipment and nearby sensitive receptors shall be blocked by portable acoustic barriers and/or shields to reduce noise levels.	
		NOI-3 Prohibit Non-Essential Noise Sources During Construction. No amplified sources (e.g., stereo "boom boxes") shall be used in the vicinity of residences during project construction or decommissioning.	
		NOI-4 Provide a Mechanism for Filing Noise Complaints. The project applicant shall provide a mechanism for residents, businesses, and agencies to register complaints with the County if construction noise levels are overly intrusive or construction occurs outside the required hours.	

Statement of Overriding Considerations

CEQA Guidelines Section 15093 requires the Lead Agency to balance, as applicable, the economic, legal, social, and technological, or other benefits of the project against its unavoidable environmental risks when determining whether to approve the project. No significant and unmitigated impacts have been identified for the proposed projects; therefore, the County would not be required to adopt a Statement of Overriding Considerations pursuant to Section 15093 for this project.

0.1.6 PROJECT ALTERNATIVES

The environmental analysis for the proposed projects evaluated the potential environmental impacts resulting from implementation of the proposed projects, as well as alternatives to the projects. The alternatives include: Alternative 1: No Project/No Development; Alternative 2: Development of DESF Site Only. A detailed discussion of the alternatives considered is included in Section 8.0. Table 0.1--2 summarizes the impacts resulting from the proposed projects and the identified alternatives.

Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (Public Resources Code Section 15126). According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated along with its impacts. The 'no project' analysis shall discuss the existing conditions at the time the Notice of Preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the DESF and DWSF projects, as proposed, would not be implemented and the project sites would not be developed.

The No Project/No Development Alternative would not meet any of the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of Assembly Bill (AB) 832 (California Global Warming Solutions Act of 2006).

Alternative 2: Development of DESF Site Only

Under this alternative, only the 24-acre DESF project would be constructed and operated. The purpose of this alternative is to avoid potential CDFW and RWQCB jurisdictional resources located within the DWSF site. Five ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the DWSF site.

Implementation of Alternative 2: Development of DESF Site Only would result in reduced impacts for the following environmental issues areas as compared to the proposed projects: agriculture, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality. This alternative would not result in any greater environmental impacts when compared to the proposed projects.

Environmentally Superior Alternative

The No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The environmentally superior alternative would be Alternative 2: Development of DESF Site Only because it would reduce impacts for the following environmental issues areas as compared to the proposed projects agriculture, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality.

TABLE 0.1-2. COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

Environmental Issue Area	Proposed Project	Alternative 1 - No Project/ No Development	Alternative 2 - Development of DESF Site Only
Aesthetics	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Agriculture	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact
Air Quality	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Biological Resources	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact (avoid)
Cultural Resources	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level of significance
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact
Geology and Soils	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Similar impact
Greenhouse Gas Emissions	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Less impact during construction. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced

Environmental Issue Area	Proposed Project	Alternative 1 - No Project/ No Development	Alternative 2 - Development of DESF Site Only
Hazards and Hazardous Materials	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Hydrology/ Water Quality	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects Less impact	Comparison to Projects: Less impact
Land Use/Planning	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Noise	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Public Services	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar Impact
Transportation/ Traffic	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar Impact
Utilities	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects Similar Impact

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1.0 INTRODUCTION

This Environmental Impact Report (EIR) has been prepared to meet the requirements of the California Environmental Quality Act (CEQA) for purposes of evaluating the potential environmental impacts, mitigation measures, and alternatives associated with the proposed SEPV Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF) Projects. This EIR describes the existing environment that would be affected by, and the environmental consequences which could result from the construction and operation of the proposed projects as described in detail in Chapter 3.0 of this EIR.

1.1 OVERVIEW OF THE PROPOSED PROJECTS

The proposed projects (DESF and DWSF facility sites) would consist of construction and operation of an expansive photovoltaic (PV) solar energy facility and supporting uses. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. The major components of each facility are PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert the electricity from the PV modules from direct current ("DC") electricity to alternating current ("AC") electricity and transfer the electricity to IID's existing Dixieland Substation. Ancillary equipment includes switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment. In addition, a major component of the projects would be the restoration of the project sites to pre-project conditions once the project is no longer in use.

Two separate Conditional Use Permit (CUP) applications have been filed by the project applicant for each of the projects.

The proposed projects are located on privately owned, undeveloped, but partially disturbed land encompassing approximately 53 acres. The project area is located in the Dixieland area in unincorporated Imperial County. The project sites are located adjacent to the existing Dixieland Substation, which is located between the two project sites.

Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-18700) that runs north-south along Broadway Avenue by way of a gen-tie line that would cross Brown Avenue and run east-west along the southern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement on the DWSF site. The electricity generated by the projects would be used to serve local load demand on the IID distribution circuits. The details of each of the solar projects is further described and depicted in Chapter 3.0, Project Description.

1.1.1 Agency Roles and Responsibilities

1.1.1.1 County of Imperial

The County of Imperial will be required to approve two CUPs to allow for the construction and operation of the proposed DESF and DWSF projects. Pursuant to Imperial County Land Use Ordinance Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-2 Zone, subject to issuance of a CUP by the County. No land use changes would be required in order to implement the proposed action.

The following approvals will be required for implementation of the projects:

- Approval of CUPs. Implementation of the solar farm projects would require the approval of two CUPs by the County to allow for the construction and operation of the proposed DESF and DWSF projects. The projects are located on a total of four privately-owned legal parcels zoned A-2 (General Agriculture). Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-2 Zone, subject to approval of a CUP.
- 2. Site Plans. Site Plan and Architectural Review is required.
- Roadway Abandonments. The applicant is requesting the abandonment of the following roadway easements:
 - Abandonment of the public service easement alley intermediate between the two existing parcels (APNs 051-035-001 and 051-035-002) on the west side of Brown Road.
 - Abandonment of the northern 20 feet of Potrero Avenue from the east line of Brown Road to the west line of Canal Street.
 - Abandonment of the northern 20 feet of Cocupa Avenue from the east line of Broadway Avenue to the west line of Brown Road.
 - Abandonment of the eastern 40 feet of Broadway Avenue from the south line of Del Norte Avenue to the north line of Cocupa Avenue.
- 4. Lot Line Merger. Approval of a Lot Merger application for APN 051-047-001 to create a single lot/parcel by merging the boundaries of the small internal lots and those portions of Cocupa Avenue, Cyuma Street, Del Norte Avenue and the unnamed alleys vacated by resolution recorded August 19, 1954, as Instrument No. 11, in Book 891, Page 575 of Official Records and those portions of Canal Street vacated by resolution recorded May 10, 1962, as Instrument No. 82, in Book 1110, Page 435 of Official Records. The Lot Merger will also include the land area created through approval of the road abandonment process.
- 5. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and/or Board of Supervisors prior to making a decision on the projects.
- 6. Reclamation Plans. The project applicant has prepared a site reclamation plan for each of the projects (EIR Appendix L). As required by the County, when the projects are decommissioned at the end of their life spans, the project applicant or its successor in interest would be responsible for implementing the reclamation plan, which includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the sites, as well as restoration of the site to its pre-project condition. The County is responsible for approving the reclamation plan for each project and confirming that financial assurances for each of the projects are in conformance with Imperial County ordinances.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits;
- Building permits; and
- · Encroachment permits.

1.1.1.2 Other Agency Reviews and/or Consultations

1.1.1.2.1 Federal

U.S. Fish and Wildlife Service

 Consultation regarding potential impacts to special-status species or their habitat as required under the Federal Endangered Species Act (FESA). If applicable, Section 10 take permits would be required for the loss of such species and their habitat.

1.1.1.2.2 State

California Department of Fish and Wildlife (Trustee Agency)

 Consultation regarding potential impacts to California special-status species or their habitats as required under the California Endangered Species Act (CESA). If applicable, incidental take permits for the loss of such species or their habitat would be required. Consultation regarding potential impacts to waters/wetlands of the state. If applicable, a Section 1602 Streambed Alteration Agreement would be required.

California Department of Transportation

• Utility encroachment permits and/or consultation on potential impacts/improvements regarding Caltrans roads/rights-of-way.

California Regional Water Quality Control Board

National Pollution Discharge Elimination System (NPDES) Construction General Permit Order No. 2009-009-DWQ. Requires the applicant to file a public Notice of Intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP).

NPDES General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems Order No. 2013-0001-DWQ. Requires that discharges of pollutants from areas of new development be reduced to the maximum extent practicable in order to protect receiving waters and uphold water quality standards.

Consultation Regarding Potential Impacts to Jurisdictional Waters. If applicable, CWA Section 401 Water Quality Certification, or permitting under California Porter-Cologne Act.

1.1.1.2.3 Local

Imperial County Fire Department

Review as part of the EIR process including the final design of the proposed fire system.

Imperial Irrigation District

 Review as part of the EIR process including approval of encroachment permits and water supply agreements.

Imperial County Air Pollution Control District

 Review as part of the EIR process regarding consistency with the Imperial County Air Pollution Control District (ICAPCD) CEQA Air Quality Handbook, the final "Modified" 2009 8-hour Ozone Air Quality Management Plan, and the State Implementation Plan for particulate matter less than 10 microns in diameter (PM₁₀) in the Imperial Valley, and including verification of Rule 801 compliance.

1.2 RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

County of Imperial General Plan and Land Use Ordinance

The General Plan provides guidance on future growth in the County of Imperial. Any development in the County of Imperial must be consistent with the General Plan and the Land Use Ordinance (Title 9, Division 10).

Renewables Portfolio Standard Program

Established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standard (RPS) was accelerated in 2006 under SB 107 by requiring that 20 percent of electricity retail sales be served by renewable energy resources by 2010. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08 requiring that "...[a]II retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed the California Air Resources Board, under its Assembly Bill 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020.

In the ongoing effort to codify the ambitious 33 percent by 2020 goal, Senate Bill X1-2 was signed by Governor Brown, in April 2011. This new RPS preempts the California Air Resources Boards' 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities (IOUs), electricity service providers, and community choice aggregators. All of these entities must have adopted the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020. Renewable energy sources include wind, geothermal, and solar.

California Global Warming Solutions Act of 2006, Assembly Bill 32 (Statutes 2006; Chapter 488; Health and Safety Code Sections 38500 et seq.)

This Act requires the Air Resources Board (ARB) to enact standards that will reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. Electricity production facilities are regulated by the ARB.

Title 17 CCR, Subchapter 10, Article 2, Sections 95100 et seq.

These ARB regulations implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006.

Federal Clean Air Act

The legal authority for federal programs regarding air pollution control is based on the 1990 Clean Air Act Amendments (CAAA). These are the latest in a series of amendments made to the Clean Air Act (CAA). This legislation modified and extended federal legal authority provided by the earlier Clean Air Acts of 1963 and 1970.

The Air Pollution Control Act of 1955 was the first Federal legislation involving air pollution. This Act provided funds for federal research in air pollution. The CAA of 1963 was the first Federal legislation regarding air pollution control. It established a federal program within the U.S. Public Health Service and authorized research into techniques for monitoring and controlling air pollution. In 1967, the Air Quality Act was enacted in order to expand Federal government activities. In accordance with this law, enforcement proceedings were initiated in areas subject to interstate air pollution transport. As part of these proceedings, the Federal government for the first time conducted extensive ambient monitoring studies and stationary source inspections.

The Air Quality Act of 1967 also authorized expanded studies of air pollutant emission inventories, ambient monitoring techniques, and control techniques.

Imperial County Air Pollution Control District

The Imperial County Air Pollution Control District enforces rules and regulations regarding air emissions associated with various activities, including construction and farming, and operational activities associated with various land uses, in order to protect the public health.

Federal Clean Water Act (33 United States Code §§1251-1387)

The Federal Water Pollution Control Act (33 United States Code [USC] §§1251-1387), otherwise known as the CWA, is a comprehensive statute aimed at restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Enacted originally in 1948, the Act was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost every year. Primary authority for the implementation and enforcement of the CWA rests with the U.S. Environmental Protection Agency (EPA). In addition to the measures authorized before 1972, the Act authorizes water quality programs, requires federal effluent limitations and state water quality standards, requires permits for the discharge of pollutants into navigable waters, provides enforcement mechanisms, and authorizes funding for wastewater treatment works construction grants and state revolving loan programs, as well as funding to states and tribes for their water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways.

Important for wildlife protection purposes are the provisions requiring permits to dispose of dredged and fill materials into navigable waters. Permits are issued by the U.S. Army Corps of Engineers (USACE) under guidelines developed by EPA pursuant to Section 404 of the CWA.

Federal Clean Water Act and California Porter-Cologne Water Quality Control Act

The project is located within the Colorado River Basin (CRB) Regional Water Quality Control Board (RWQCB), Region 7. The Federal CWA and the California Porter-Cologne Water Quality Control Act require that Water Quality Control Plans (more commonly referred to as Basin Plans) be prepared for the nine state-designated hydrologic basins in California. The Basin Plan serves to guide and coordinate the management of water quality within the region.

Federal Endangered Species Act

FESA (16 U.S.C. 1531-1544) provides protection for plants and animals whose populations are dwindling to levels that are no longer sustainable in the wild. The Act sets out a process for listing species, which allows for petition from any party to list a plant or animal. Depending on the species, either the U.S. Fish and Wildlife Service (USFWS) or the National Marine Fisheries Service (NMFS) will determine whether listing the species is warranted. If it is warranted, the species will be listed as either threatened or endangered. The difference between the two categories is one of degree, with endangered species receiving more protections under the statute.

Section 9 of the ESA prohibits the "take" of listed fish and wildlife species, but not plant species. This provision applies to every person. The definition of "take" includes, by regulation, "significant habitat modification or degradation that actually kills or injures wildlife." 50 Code of Federal Regulations (CFR) §17.3.

National Historic Preservation Act

Federal regulations (36 CFR Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the National Register of Historic Places (NRHP)." The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

California Endangered Species Act (Government Code Section 2050)

CESA is enacted through Government Code Section 2050. Section 2080 of the California Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project caused losses of listed species populations and their essential habitats.

California Lake and Streambed Program (Fish and Game Code Section 1602)

The California Department of Fish and Wildlife (CDFW) is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the Fish and Game Code (Section 1602) requires an entity to notify CDFW of any proposed activity that may substantially modify a river, stream, or lake.

1.3 PURPOSE OF AN EIR

The purpose of an EIR is to analyze the potential environmental impacts associated with a project. CEQA (Section 15002) states that the purpose of CEQA is to: (1) inform the public and governmental decision makers of the potential, significant environmental impacts of a project; (2) identify the ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

1.4 EIR PROCESS

1.4.1 Availability of Reports

This Draft EIR and documents incorporated by reference are available for public review at the County of Imperial Planning and Development Services Department, 801 Main Street, El Centro, California 92243. Copies are also available for review at the City of El Centro Public Library, 539 State Street, El Centro, CA. Documents at these locations may be reviewed during regular business hours.

David Black, Planner IV

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

Comments received during the public review period of the Draft EIR will be reviewed and responded to in the Final EIR. The Final EIR will then be reviewed by the Imperial County Planning Commission and Board of Supervisors as a part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the County of Imperial Planning and Development Services Department at (760) 482-4236.

1.4.2 Public Participation Opportunities/Comments and Coordination

1.4.2.1 Notice of Preparation

The County of Imperial issued a Notice of Preparation (NOP) for the preparation of an EIR for the SEPV Dixieland East and West Projects on May 15, 2015. The NOP was distributed to City, County, State, and Federal agencies, other public agencies, and various interested private organizations and individuals in order to define the scope of the EIR. The NOP was also published in the Imperial Valley Press on May 16, 2015. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the projects, and the scope and content of environmental issues to be addressed in the EIR. Correspondence in response to the NOP was received from the following entities and persons:

- State Clearinghouse (May 18, 2015)
- Imperial Irrigation District (June 17, 2015)
- Imperial County Air Pollution Control District (June 18, 2015)

The comments submitted on the NOP during the public review and comment period are included as Appendix A to this EIR.

1.4.2.2 Scoping Meeting and Environmental Evaluation Committee

During the NOP public review period, the SEPV Dixieland East and West Projects were discussed as an informational item at the County's Environmental Evaluation Committee meeting on May 28, 2015. Additionally, a scoping meeting for the general public as well public agencies was held on May 28, 2015 at 6:00 p.m. The meeting was held by the Imperial County Planning & Development Services Department in the Board of Supervisors Chambers located at the County Administration Center at 940 Main Street, El Centro, CA.

1.4.3 Environmental Topics Addressed

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

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions

- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation/Traffic
- Utilities/Service Systems

1.4.3.1 Eliminated from Further Review in Notice of Preparation

The Initial Study and NOP completed by the County (Appendix A) determined that environmental effects to Forestry Resources, Mineral Resources, Recreation, Population/Housing, Public Services (Schools, Parks and Other Facilities), and Utilities (Wastewater, Stormwater, and Solid Waste) would not be

potentially significant. Therefore, these impacts are not addressed in this EIR; however, the rationale for eliminating these issues is briefly discussed below:

Forestry Resources

The project sites are located on privately owned, undeveloped, but partially disturbed land. No portion of the project sites (or the immediate vicinity) is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the projects would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed projects would not impact forestry resources.

Mineral Resources

The project sites are not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to the Conservation and Open Space Element of the County of Imperial General Plan, no known mineral resources occur within the project sites nor do any of the project sites contain mapped mineral resources. As such, the proposed projects would not adversely affect the availability of any known mineral resources.

Recreation

The proposed projects would not generate new employment on a long-term basis. As such, the projects would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the projects do not include or require the expansion of recreational facilities. No impact will occur.

Population/Housing

The project sites are currently vacant. Development of housing is not proposed as part of the projects. The facilities would be remotely operated, controlled and monitored and with no requirement for daily onsite employees. The proposed projects would not result in a substantial population growth, as the number of employees required to operate and maintain the facilities is minimal. Therefore, no impact is identified for population and housing.

Public Services (Schools, Parks and Other Facilities)

The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations.

Additionally, operation of the proposed projects would require minimal part-time staff for maintenance. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities (such as post offices) are not expected.

Utilities (Wastewater, Stormwater, and Solid Waste)

The projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. The proposed projects would not exceed wastewater treatment requirements of the RWQCB. The proposed projects are not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel

washing. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed projects would not substantially alter the existing drainage pattern of the site, substantially increase the rate of runoff, or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. No IID drains or canals will be removed or relocated within the project sites. A less than significant impact is identified for these issue areas.

During construction and operation of the projects, waste generation will be minor. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. There are over 40 solid waste facilities listed in Imperial County in the CalRecycle database. Trash would likely be hauled to the Imperial Solid Waste Site located approximately nine miles northeast from the project area. The facility has approximately 183, 804 cubic yards of capacity remaining (reporting date May 2012). The Imperial Solid Waste Site has a maximum permitted throughput of 18 tons/day and is estimated to remain in operation until March 1, 2019 (http://www.calrecycle.ca.gov/SWFacilities/Directory/13-AA-0001/Detail/). Therefore, there is ample landfill capacity to receive the minor amount of solid waste generated by project construction and operation. Additionally, because the proposed projects would generate solid waste during construction and operation, they will be required to comply with State and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP for each project site will contain provisions for recycling and diversion of construction waste per policies of the County.

1.4.4 Areas of Controversy and Issues to be Resolved

Section 15123(b)(2) of the CEQA Guidelines requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by other agencies and the public as well as issues to be resolved. Through the course of the environmental review process for these projects, areas of concern and issues to be resolved include potential impacts related to aesthetics, biological resources, water supply, and obstruction of planned IID transmission line routes.

1.4.5 Document Organization

The structure of the Draft EIR is identified below. The Draft EIR was organized into eleven chapters, including the Executive Summary. Within Chapter 4.0 the environmental impacts associated with implementation of the proposed projects are addressed.

- The **Executive Summary** provides a summary of the proposed projects, including a summary of project impacts, mitigation measures, and project alternatives.
- Chapter 1.0 Introduction provides a brief introduction of the proposed projects; relationship to statutes, regulations and other plans; the purpose of an EIR; public participation opportunities; availability of reports; and, comments received on the NOP.
- Chapter 2.0 Environmental Setting provides a description of the physical characteristics of the proposed projects.
- Chapter 3.0 Project Description provides a description of the SEPV Dixieland East and West Solar Farm Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the projects, and identifies the discretionary approvals required for implementation of each of the projects.
- Chapter 4.0 Environmental Analysis provides an analysis of the environmental impacts of the
 projects for the following environmental issues: aesthetics; agricultural resources; air quality;
 biological resources; cultural resources; geology and soils; greenhouse gas emissions; hazards
 and hazardous materials; hydrology/water quality; land use and planning; noise and vibration;
 public services; transportation/traffic; and utilities/service systems. This chapter also identifies
 mitigation measures to address potential impacts to the environmental issues identified above.

- Chapter 5.0 Analysis of Long-Term Effects provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.
- Chapter 6.0 Cumulative Impacts discusses the impact of the proposed projects in conjunction with other planned and future development in the surrounding areas.
- Chapter 7.0 Effects Found Not to be Significant lists all the issues determined to not be significant as a result of the preparation of this EIR.
- Chapter 8.0 Alternatives analyzes the alternatives to the proposed projects.
- Chapter 9.0 References lists the data references utilized in preparation of the EIR.
- Chapter 10.0 EIR Preparers and Organizations Contacted lists all the individuals and companies involved in the preparation of the EIR, as well as the individuals and agencies consulted and cited in the EIR.

2.0 ENVIRONMENTAL SETTING

The proposed projects encompass a total of 53 acres of land located in unincorporated Imperial County. Imperial County encompasses over 4,597 square miles or 2,942,080 acres of land, bordered by Mexico to the south, Riverside County to the north, San Diego County on the west, and the State of Arizona on the east. The terrain varies from 235 feet below sea level at the Salton Sea to 4,548 feet at Blue Angel peak.

The project area is characterized by a typical desert climate with dry, warm winters, and hot, dry summers. Most of the rainfall occurs in conjunction with monsoonal conditions between May and September, with an average annual rainfall of less than 3 inches for the project area. The 10-year, 24-hour estimated precipitation amount for the project sites is 1.8 inches; while the 100-year, 24-hour estimated precipitation is 3 inches (Western Regional Climate Center 2004).

The Imperial Valley is an irrigated agricultural area. Approximately one-fifth of the nearly three million acres in Imperial County is irrigated for agricultural purposes, of which the majority are located within the Imperial Valley. The Imperial Valley area encompasses a total of 989,450 acres, of which 512,163 acres are irrigated.

Approximately 20 percent of the land in Imperial County is irrigated for agricultural purposes, most notably the central area known as Imperial Valley (512,163 acres). The rich soils of Imperial County, particularly of the Imperial Valley, were created by periodic flooding of the Colorado River over thousands of years which left deep, rich deposits of silt. Favorable climate, productive soils, and the availability of irrigated water have permitted Imperial County to become a leading producer of agricultural products. Irrigation agriculture in the County is extremely diverse and includes numerous types of vegetable crops including lettuce, carrots, onions, tomatoes, cauliflower, and broccoli; alfalfa, Sudan grass, and other animal feed; sugar beets; wheat and other grains; melons; cotton; various citrus fruits, and nuts. Two resources that are vital to past and future agricultural production are productive soils and adequate water availability (Imperial County General Plan, as amended through 2008).

Imperial County is, and will continue to be a predominately agricultural area; however, a significant increase in urbanization since 2003 has occurred, including recently developed, and developing solar facilities, and other alternative energy projects such as geothermal. Most of Imperial County, approximately 50 percent, is still largely undeveloped or under federal ownership. According to the Southern California Association of Governments (SCAG), between 2000 and 2014, the total population of the County increased by 38,311 to 180,672 (based on 2014 census data). The growth rate during the 14 years (26.9 percent) was higher than the SCAG region rate (12.3 percent) (SCAG 2015). The developed area where the County's incorporate cities, unincorporated communities, and supporting facilities are situated comprise less than one percent of the land (Imperial County General Plan, as amended through 2008). There are several residences located within close proximity to the project sites. The nearest residences to the DESF site are east of the Westside Main Canal along Foxglove Street, and in a trailer located at the northwest corner of West Evan Hewes Highway and Canal Street. Another single family residence adjacent to DESF is approximately 120 feet west of the western edge of the site, adjacent to the IID substation. Approximately 1,500 feet west of DWSF is the Imperial Lakes Water Ski Community which includes 20 residences surrounding two man-made lakes.

2.1 LOCATION OF PROJECTS

The proposed projects are located on privately owned, undeveloped, but partially disturbed land encompassing approximately 53 acres. The project area is located in the Dixieland area in unincorporated Imperial County. The southern-most boundary of the projects borders West Evan Hewes Highway. The eastern-most boundary of the project sites (Dixieland East) borders the Westside Main Canal, and is approximately 11.5 miles west of El Centro, California. The Dixieland East project site is located in Township 16 South, Range 12 East, Section 7, and the Dixieland West project site is located in Township 16 South, Range 11 East, Section 12 (San Bernardino Baseline and Meridian). The geographic center of the project area roughly corresponds with existing Dixieland Substation at 32°47'41.70"N latitude, 115°46'36.50"W longitude.

Two separate Conditional Use Permit (CUP) applications have been filed with the County, which together define the project sites. The two CUP applications or individual site locations consist of the following:

- Dixieland East Solar Farm (DESF); and
- Dixieland West Solar Farm (DWSF).

The project sites are located adjacent to the existing Dixieland Substation, which is located between the two project sites. The project sites (i.e., Dixieland East) border the Westside Main Canal on the east and are located approximately 1,500 feet from the Imperial Lakes Water Ski Community to the west. Table 3-1 in Section 3.0, Project Description identifies the individual assessor parcel numbers (APNs) associated with the DESF and DWSF with their respective combined acreage, and zoning.

2.1.1 Transmission and Collector Facilities

Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-18700) that runs north-south along Broadway Avenue by way of a gen-tie line that would cross Brown Avenue and run east-west along the southern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement on the DWSF site. The electricity generated by the projects would be used to serve local load demand on the IID distribution circuits.

2.2 PHYSICAL CHARACTERISTICS

2.2.1 Aesthetics and Visual Resources

The project area is located in the Dixieland area in unincorporated Imperial County, California. The Yuha Desert is generally located to the west and is comprised of upland desert landscape that transitions into the Peninsular Mountain Range that extends south into Mexico. Carrizo Mountain rises 2,400 feet above mean sea level in the southern Yuha Desert, and is the prominent visual landscape feature west of the project sites. The eastern-most boundary of the project sites (Dixieland East) borders the Westside Main Canal, and is approximately 11.5 miles west of El Centro, California. Areas to the east of the project area (that is, east of the Westside Main Canal), are generally level and characterized as an agriculturally dominated landscape. Views to the north, south, and west are characterized as a desert environment. Prominent visual features near the project sites include an agricultural canal (Westside Main Canal) that supply water to the agricultural areas, the IID Dixieland substation, scattered agricultural structures or residences, and the Centinela State Prison.

2.2.2 Agricultural Resources

In 2013, Imperial County (County) was ranked tenth among the 58 counties in the State of California with respect to production of agricultural goods, earning \$1,945,759,000 (gross) for the State's economy (California Department of Food and Agriculture 2015). Vegetable and melon crops were the top commodities in Imperial County producing \$865,401,000 in the year 2013. Livestock and field crops were the next two largest commodities generating \$617,371,000 and \$471,461,000, respectively, for Imperial County (Imperial County Agricultural Commissioner 2013).

2.2.3 Air Quality

The project area is located in the Salton Sea Air Basin (SSAB) under the jurisdiction of the ICAPCD. The SSAB, which contains part of Riverside County and all of Imperial County, is governed largely by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms, except in winter when the

high is weakest and farthest south. When the fringes of mid-latitude storms pass through the Imperial Valley in winter, the coastal mountains create a strong "rainshadow" effect that makes Imperial Valley the second driest location in the United States. The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms.

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-hour ozone (O_3), particulate matter less than 10 microns in diameter (PM_{10}), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Imperial County is classified as a "serious" non-attainment area for PM_{10} and a "moderate" non-attainment area for 8-hour ozone for the NAAQS and non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. Air pollutants transported into the SSAB from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) and from Mexicali, Mexico substantially contribute to the non-attainment conditions in the SSAB. The closest air quality monitoring station to the project study areas is the City of El Centro (150 Ninth Street, El Centro, CA 92243). This monitoring station measures PM_{10} , $PM_{2.5}$, carbon monoxide (CO), and nitrogen dioxide (NO_2).

2.2.4 Biological Resources

The project sites are surrounded by relatively undeveloped, moderately disturbed desert scrubland. Open access BLM lands are adjacent to the west and north sides of DWSF, and the Westside Main Canal is located to the east of DESF. A large area of cultivated agricultural croplands is situated on the east side of the Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. As shown in Figure 4.4-1, the dominant habitat types within DWSF consist of approximately 35.5 acres of creosote scrub and 2.5 acres of mesquite. The habitat types within DESF consist of 4.1 acres of creosote scrub, 19.7 acres of ruderal habitat and 1.1 acres of Tamarix thicket. No riparian habitat or sensitive natural communities were observed any of the sites. Based on habitat requirements and geographic restrictions, no species listed as state or federally endangered and/or threatened included in the literature search results is likely to occur on the project sites. Although the sites contain potential habitat for burrowing owl and the flat-tailed horned lizard, no burrowing owl or flat-tailed horned lizard were observed on the project sites during biological surveys conducted for the project. Colorado Valley woodrat was not observed on the project sites during field investigations. However, den building materials are present on the project sites among the mesquite and tamarisk trees. The vegetation habitat within and adjacent to the project sites is suitable for providing nesting opportunities for avian species as evidenced in the red-tailed hawk nest observed immediately northeast of DWSF. Five ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the DWSF site.

2.2.5 Cultural Resources

Thousands of prehistoric archaeological resources and hundreds of historical era resources are found throughout Imperial County. Prehistoric evidence of land and natural resource use in the form of trails, rock art, geoglyphs, fish traps, and resource procurement and manufacturing locations are found in the regions surrounding the fertile valley portion of the county. From a historical standpoint, the intensive use of Imperial Valley for irrigation agriculture since the beginning of the 1900's has impacted any resources that may have existed on land that is now farmland or under the Salton Sea. Historic resource sites date back to 1540, when the Hernando de Alcaron Expedition discovered Alta California from near the intersection of Interstate 8 (I-8) and Highway 186. The next major historical event occurred in 1775 when Juan Bautista de Anza first passed through the area. The Anza Trail itself constitutes a significant cultural resource in the Yuha Desert, as does the later Sonoran/Southern Emigrant Trail which served as a major route to and from coastal California from 1825 to 1865. Although very few structures or artifacts may remain from the use of these trails, the routes themselves are of historical significance. Various other structures, such as missions (Spanish period 1769-1821) and a fort (Mexican period 1821-1848) are still evident in regions throughout the county (Imperial County Planning and Development 1993).

Data from the Southern Coast Information Center (SCIC) revealed 20 previous cultural resources studies have been conducted within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. No cultural resources were found to be in DESF. Six prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) and one secondary deposit of mixed prehistoric artifacts (P-13-13125) and modern materials were previously recorded in DWSF. Additionally, one previously unrecorded cultural resource (a prehistoric artifact scatter temporarily designated SEP 1501-P-1) was identified. Based on results of initial research and additional evaluation for SEP1501-P-1, these resources were not identified as being "historical resources" under CEQA.

The paleontological collection records at the Natural History Museum of Los Angeles County were reviewed for the Project locations and the presence of known fossil localities. No vertebrate fossil localities have been previously discovered within the project area boundaries; however there are fossil localities nearby that have been found in similar geological deposits that occur in the project area. Based on the results of this initial research, the paleontological sensitivity of the deposits within the project area is considered to be high.

2.2.6 Geology and Soils

The project sites are located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments deposited since the Miocene Epoch.

Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity.

The geologic conditions present within the County contribute to a wide variety of hazards that can result in loss of life, bodily injury, and property damage. Fault displacement is the principal geologic hazard affecting public safety in Imperial County. The primary seismic hazard at the project sites is the potential for strong groundshaking due to potential fault movements along the Brawley, Superstion Hills, and Imperial Faults. Secondary geologic hazards that have a potential to occur include differential ground settlement, soil liquefaction, rock and mudslides, ground lurching, or ground displacement along the fault.

2.2.7 Greenhouse Gases

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. Human-caused sources of CO_2 include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO_2 have increased in the atmosphere since the industrial revolution. CH_4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of N_2O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid. Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses. GHGs present in the project sites primarily include CO_2 and N_2O from farm equipment and local traffic.

2.2.8 Hazards and Hazardous Materials

The project area is located in an agriculturally zoned area of Imperial County. However, the project sites and surrounding area (west of the canal) have not been actively cultivated as agricultural land within recent years. The potential for an accident is increased in regions near major arterial roadways or railways that transport hazardous materials and in regions with agricultural or industrial facilities that use, store, handle, or dispose of hazardous materials.

2.2.9 Hydrology/Water Quality

The project area lies within the Colorado River Basin Region. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of difference economic and hydrologic characteristics.

The projects are located within the Imperial Valley Planning Area of the Colorado River Basin. The Imperial Valley Planning Area consists of the following hydrological units (HU): Imperial (723.00) comprised of 2,500 square miles in the southern portion of the Colorado River Basin Region, with the majority located in Imperial County; Davies (724.00), located to the east of the project sites, and Amos-Ogilby (726.00), located to the east of the project area. The project sites are located within the Imperial HU.

The Imperial Valley Planning Area's central feature is the flat, fertile Imperial Valley (California Regional Water Quality Control Board 2014). All watersheds within the Imperial Valley are located within a depression (the Salton Trough), resulting in a closed basin. The highest point is located at the Colorado River Delta in Mexico and the lowest point is located below sea level near the Riverside County line, draining into the Salton Sea. Two hydrologic areas are located within the Imperial HU, the Coyote Wells Hydrological Area (HA) located to the west of the project sites and the Brawley HA, where the project sites are located.

2.2.10 Noise

The predominant source of noise in the project area includes vehicular traffic on local roads and highways, and off-site agricultural operations. The use of heavy-duty equipment such as front-end loaders, tractors, forklifts, and diesel-powered trucks are common noise sources typically associated with agricultural uses. Agricultural operational equipment can reach maximum levels of approximately 84 dBA at 50 feet (Caltrans 2013). With the soft surfaces characterizing the agricultural landscape, these noise levels attenuate to approximately 60 dBA at distances over 800 feet. Based on field observations of the project sites, the existing noise environment is generally influenced by the noise produced from the following sources:

- Vehicle traffic along West Evan Hewes Highway, and
- Agricultural operations occurring east of the project sites.

2.2.11 Public Services

The project area is located in unincorporated Imperial County, east of the City of El Centro and just north of I-8. The project sites are located within the Imperial County Fire Department and Office of Emergency Services (ICFD/OES) and the Imperial County Sheriff Department's areas of service.

2.2.12 Transportation/Traffic

The project area is located within the County of Imperial on privately owned, undeveloped agricultural land collectively encompassing 53 acres approximately 10 miles west of El Centro, California. The surrounding roadways include the Evan Hewes Highway, Dunaway Road, I-8, and Brown Road. The existing circulation system is discussed further in Section 4.13 Transportation/Traffic.

2.2.13 Utilities/Service Systems

The source of nearly all surface waters in Imperial County is the Colorado River. The water is diverted from the Colorado River at the Palo Verde Weir north of Blythe by the Palo Verde Irrigation District for use in the Palo Verde Valley of northeast Imperial County and southeast Riverside County; and at the

Imperial Dam into the All-American Canal by the Imperial Irrigation District (IID) and the Bard Irrigation District for use in the Imperial, Yuma, Bard, and Coachella Valleys. The 82-mile All-American Canal, has several main canals that branch off: the East Highline, Central Main and Westside Main canals (IID n.d. (a)). These three canals supply water service to Imperial Valley and are operated and maintained by IID (IID n.d.(a)). The IID serves irrigation water and electric power to farmers and residents in the lower southeastern portion of California's desert.

The proposed projects are located on privately owned, undeveloped, but partially disturbed land. Besides the brief period between 1979 and 1984 in which the DESF site was used for agricultural production, both project sites have not been historically used for agricultural purposes. Therefore the annual water usage and estimated water consumption of either site has not been recorded by IID.

2.3 EXISTING LAND USE

The proposed projects are located on privately owned, undeveloped, but partially disturbed land. The project area is located in the Dixieland area in unincorporated Imperial County. The southern-most boundary of the projects borders West Evan Hewes Highway. The eastern-most boundary of the project sites (DESF) borders the Westside Main Canal, and is approximately 10 miles west of El Centro, California. The project sites are designated as Agriculture under the County's General Plan (as amended through 2008). The project sites are located within the General Agriculture (A-2) zoning designation. Surrounding uses consists of vacant desert land with rural lots and a few remaining residences. The Centinela State Prison is located approximately two miles northwest.

On and off-site uses are comprised of irrigated agriculture with isolated residential structures scattered sparsely throughout the project area.

The nearest residence (a mobile home) is adjacent to the DESF site to the east, 175 feet from the project boundary where construction equipment would be used. Eight more residences (four houses and four mobile homes) are located east of the project across the Westside Main Canal with the closest construction noise approximately 350 feet from the nearest residence. South of the project are two rural residences, with the nearest located approximately 350 feet from the project. The Imperial Lakes Water Ski Community is located west of DWSF. This development includes 20 residences (mobile homes). The eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. No residences are located immediately to the north. The land to the west of the canal, including the project sites are zoned for agricultural uses; however a majority of the land is underutilized vacant land. The nearest area of actively cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF.

3.0 PROJECT DESCRIPTION

Chapter 3.0 provides a description of the SEPV Dixieland East and West Projects. This chapter also defines the goals and objectives of the proposed projects, provides details regarding the individual components that together comprise the projects, and identifies the discretionary approvals required for project implementation of each of the projects.

3.1 LOCATION OF PROJECTS

The proposed projects are located on privately owned, undeveloped, but partially disturbed land encompassing approximately 53 acres. The project area is located in the Dixieland area in unincorporated Imperial County (County) (see Figure 3-1). The southern-most boundary of the projects borders West Evan Hewes Highway. The eastern-most boundary of the project sites (Dixieland East) borders the Westside Main Canal, and is approximately 11.5 miles west of El Centro, California. The Dixieland East project site is located in Township 16 South, Range 12 East, Section 7, and the Dixieland West project site is located in Township 16 South, Range 11 East, Section 12 (San Bernardino Baseline and Meridian). The geographic center of the project area roughly corresponds with existing Dixieland Substation at 32°47'41.70"N latitude, 115°46'36.50"W longitude. Figure 3-1 illustrates the project area.

Two separate Conditional Use Permit (CUP) applications have been filed with the County, which together define the project sites. The two CUP applications or individual site locations consist of the following:

- Dixieland East Solar Farm (DESF); and
- Dixieland West Solar Farm (DWSF).

The project sites are located adjacent to the existing Dixieland Substation, which is located between the two project sites. The project sites (i.e., Dixieland East) border the Westside Main Canal on the east and are located approximately 1,500 feet from the Imperial Lakes Water Ski Community to the west. Table 3-1 identifies the individual assessor parcel numbers (APNs) associated with the DESF and DWSF with their respective combined acreage, and zoning. The location of the project sites is shown in Figure 3-2.

	APN	Acreage	Zoning
Dixieland East Solar Farm	051-047-001		A-2
	051-035-001	24	A-2
	051-035-002		A-2
Dixieland West Solar Farm	034-390-026	29	A-2
Total		53	

TABLE 3-1. PROJECT SITES APNS, ACREAGES, AND ZONING

3.1.1 Renewable Energy Overlay Zone

The County has recently prepared an update to the existing Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. Still in draft form, and adoption pending, this General Plan element was created as part of the California Energy Commission Renewable Energy Grant Program to amend and update the County's General Plan to facilitate future development of renewable energy projects. This General Plan element uses the Desert Renewable Energy Conservation Plan (DRECP) as an initial planning and policy framework, then applies further constraints analysis to the proposed renewable energy zones based on the County's goals and priorities, including protection of agricultural land.

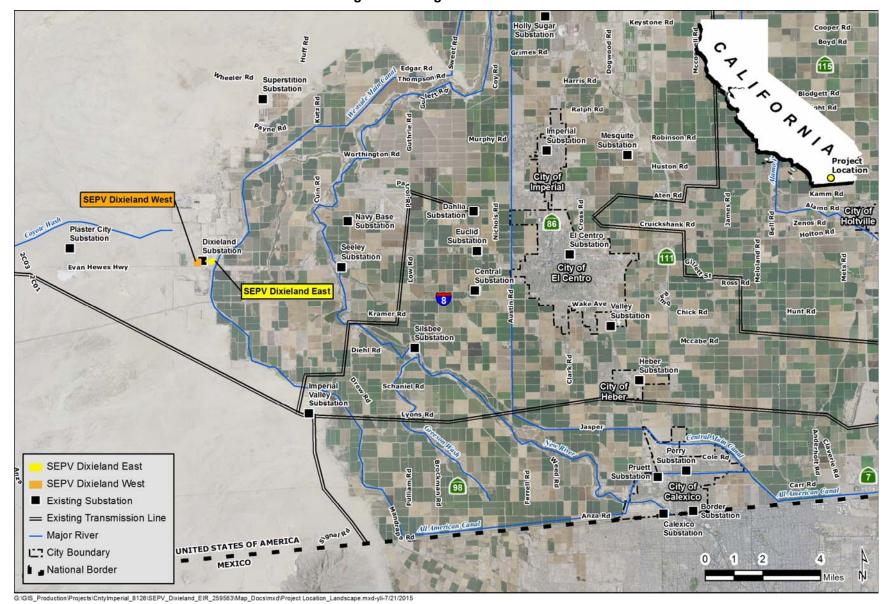


Figure 3-1. Regional Location

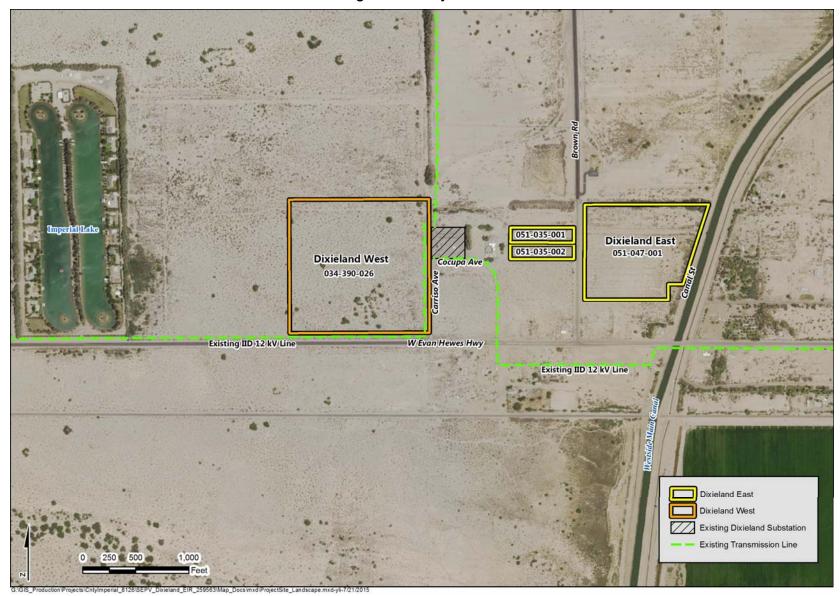


Figure 3-2. Project Sites

As part of this effort, the County developed a draft Renewable Energy (RE) Overlay Zone Map, which identifies locations within the County authorized for development and operation of renewable energy projects with an approved Renewable Energy Conditional Use Permit (RECUP). The proposed RE Overlay Zone is concentrated in areas that were determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. The RE Overlay Zone covers approximately 61,627.10 acres of land and surface water within the Salton Sea. The Overlay Zone Map contains three categories: (1) Geothermal, (2) Renewable Energy, and (3) Renewable Energy/Geothermal.

As shown in Figure 3-3, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. The Renewable Energy/Geothermal overlay zone category was established to identify areas that could be developed with any form of renewable energy technology, including geothermal production. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting agricultural, natural, and cultural resources.

3.1.2 Dixieland East Solar Farm

The DESF project site consists of three parcels totaling 24 acres within the eastern portion of the project area. As shown in Figure 3-2, the DESF project site is generally located between the Westside Main Canal to the east and the Dixieland Substation to the west with W. Evan Hewes Highway to the south. Primary and secondary access to DESF is via W. Evan Hewes Highway to Brown Road. The DESF site includes the following County APNs: 051-047-001, 051-035-001, and 051-035-002.

3.1.3 Dixieland West Solar Farm

The DWSF project site consists of one parcel totaling 29 acres within the western portion of the project area. As shown in Figure 3-2, the DWSF is generally bounded by W. Evan Hewes Highway to the south, vacant land to the west and north, and the Dixieland Substation on the east. The Imperial Lakes Water Ski Community is located approximately 1,500 feet west of the DWSF project site. Primary and secondary access to the DWSF is via W. Evan Hewes Highway to Carriso Avenue. Carriso Avenue extends north of W. Evan Hewes Highway along the eastern perimeter of the site. The Imperial Irrigation District's (IID) existing electrical distribution line runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement. The DWSF project site includes one County APN: 034-390-026.

3.2 PROJECT OBJECTIVES

The primary objective of the projects is to utilize Imperial County's abundance of available solar energy (sunlight) to generate renewable energy, consistent with the County General Plan renewable energy objectives. The project applicant and the County identified the following objectives for the projects:

- Construct and operate a solar energy facility capable of producing up to 5 megawatts (MW) of electricity to help meet the State-mandated Renewable Portfolio Standard (RPS) of providing 33 percent renewable energy by 2020.
- Construct and operate a solar power facility in the County's renewable energy overlay zone, ensuring that the projects are within areas determined to be the most suitable for the development of renewable energy facilities and with minimal impacts to the environment.
- Operate a facility at a location that ranks amongst the highest in solar resource potential in the nation.
- Interconnect with existing electrical transmission infrastructure to maximize opportunities for the sharing or use of existing utility transmission corridor(s) and to minimize potential environmental impacts associated with the construction of new infrastructure.

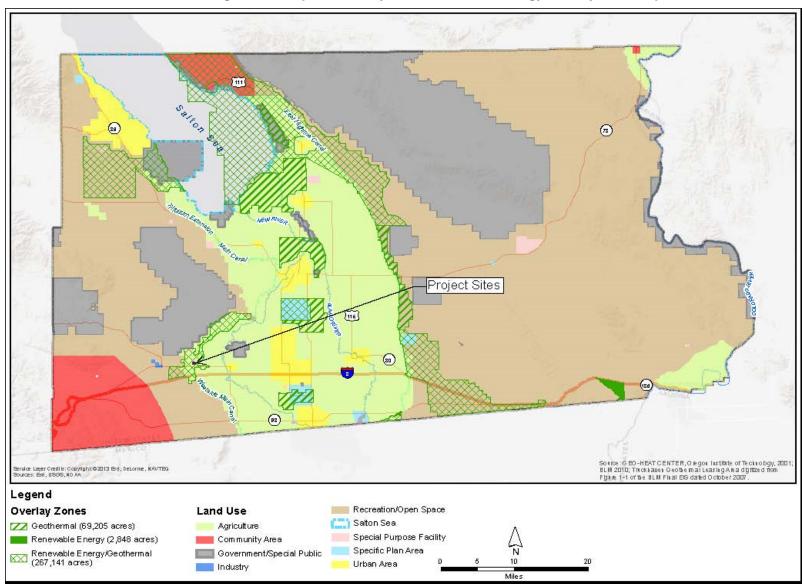


Figure 3-3. Imperial County Draft Renewable Energy Overlay Zone Map

Source: Chambers Group 2015.

- Comply with the terms and requirements of the long-term power purchase agreement with the Imperial Irrigation District through its Feed-in Tariff program.
- Operate a renewable energy facility that does not produce significant noise nor emit any greenhouse gases.
- Help reduce reliance on foreign sources of fuel.
- Supply on-peak power to the electrical grid in California.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Assembly Bill (AB) 832 (California Global Warming Solutions Act of 2006).
- Contribute to Imperial County's economic growth and reputation as the renewable energy capital
 of the nation.

3.3 PROJECT CHARACTERISTICS

The proposed projects (DESF and DWSF facility sites) would consist of construction and operation of an expansive photovoltaic (PV) solar energy facility and supporting uses. The projects would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. The major components of the facility are PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert the electricity from the PV modules from direct current ("DC") electricity to alternating current ("AC") electricity and transfer the electricity to IID's existing Dixieland Substation. Ancillary equipment includes switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment. Additional auxiliary facilities would include lighting and security systems.

At build-out, the proposed projects would facilitate the generation of up to 5 MW of alternating current (AC) on a daily basis (Table 3-2). The facilities would be designed to generate electricity during the daylight hours when local electricity demand from IID customers is typically at its peak. A description of each solar farm is provided in Sections 3.3.3 through 3.3.4.

TABLE 3-2. SEPV DESF AND DWSF SOLAR PROJECT PROPOSED MEGAWATT OUTPUT

Project	Proposed Megawatt (MW)
DESF	2 MW AC
DWSF	3 MW AC
TOTAL	5 MW

3.3.1 Photovoltaic Panels/Solar Arrays

PV solar cells convert sunlight directly into direct current electricity. The process of converting light (photons) to electricity (voltage) in a solid state process is called the photovoltaic effect. A number of individual PV cells are electrically arranged and connected into solar PV modules, sometimes referred to as solar panels.

The PV cells will be made from crystalline silicon materials, which will be dark in color, non-reflective, and highly absorptive of the sunlight that strikes their glass surfaces. Each PV module is about six feet long, three feet wide and three inches thick with a weight of about 60 pounds. A number of PV modules will be wired together in a series and parallel configuration and connected to DC to AC inverters and transformers located throughout the project sites.

The PV modules will comply with all industry quality standards and will be stringently tested and robustly constructed to guarantee a useful life of at least 25 to 30 years in all weather conditions.

PV Panel/Mounting Configuration – The PV modules would be mounted to steel support structures designed and installed to properly position the PV modules to maximize the amount of sunlight that can land upon their surfaces. The single-axis sun tracking arrays (a row of PV modules) would be oriented along a north-south axis to allow the PV modules to rotate from east to west in order to track or follow the sun's path throughout the day. The parallel array rows would be separated and spaced apart to minimize inter-row shading of the sun.

These support structures are typically mounted on foundations of steel beams or tubes directly embedded into the ground to a depth of five to eight feet depending upon loading and soil conditions. These structural elements are typically driven into the earth with vibratory or hydraulic press-in methods. This type of driven pier foundation offers multiple benefits, including quick installation and minimal site disturbance, and is a "concrete-free" foundation solution that would allow for easy site reclamation at the end of the project life cycle. The PV modules, at their highest point of the solar tracking during the day, would be less than nine feet above the ground surface.

The DC electrical output from the PV modules would be transferred to inverters which convert the DC energy to high quality utility grade AC electricity. Electrical transformers would be used to boost the AC voltage output of the inverters to the 12kV level required to interconnect to IID's existing overhead distribution circuit that runs along the east side of DWSF and adjacent to the west side of DESF. Ancillary equipment includes switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment.

3.3.2 Transmission Facilities

Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-18700) that runs north-south along Broadway Avenue by way of a short-span gen-tie line that would interconnect at the southwestern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot-wide IID transmission easement on the DWSF site. The electricity generated by the projects would be used to serve local load demand on the IID distribution circuits. The point of interconnection(s) is depicted on Figure 3-4.

3.3.3 Dixieland East Solar Farm

The DESF encompasses a total of 24 acres and includes three parcels of land as described in Section 3.1. These parcels would be leased to the project applicant for the 20-year term of the Power Purchase Agreement with IID. In total, the DESF would be capable of generating up to 2 MW AC.

As shown in Table 3-3, of the 24 total acres, approximately eight acres (less than 30 percent of the total area of the parcels) would be developed with solar arrays, equipment and components as well as access roads. The proposed area of development (footprint) is significantly less than the full acreage because of setbacks, access roads and because of the spacing between array rows (more than twice as much space between rows than is covered by the width of the arrays) to minimize inter-row shading of the PV modules. The project fence line would be set back approximately 400 feet from W. Evan Hewes Highway. The site layout for the DESF is illustrated in Figure 3-5.

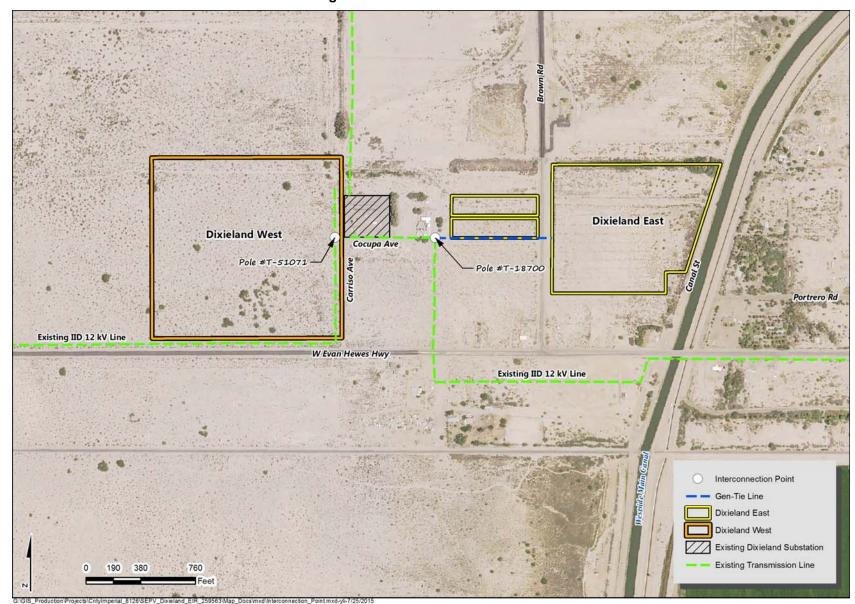


Figure 3-4. Point of Interconnection

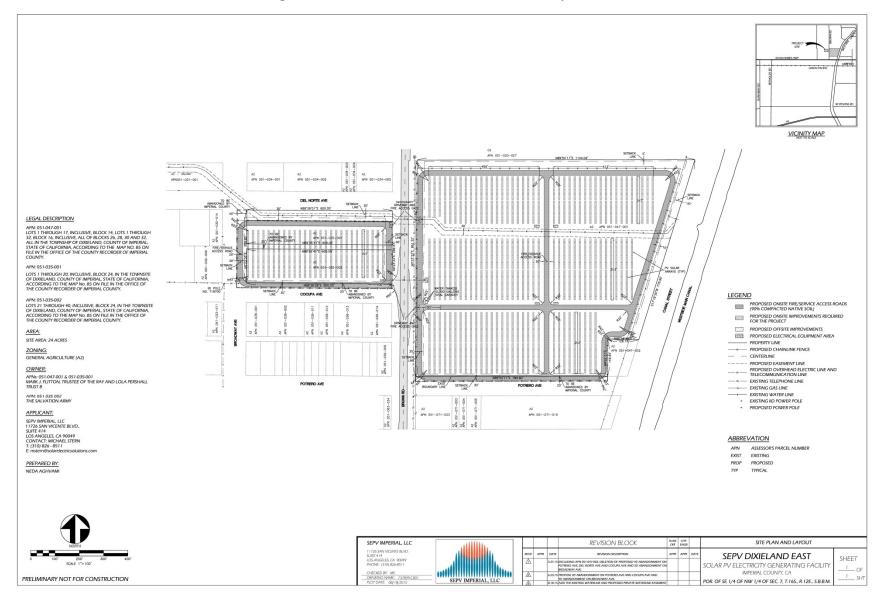


Figure 3-5. Dixieland East Solar Farm – Site Layout

TABLE 3-3. TOTAL ACREAGE VS. PROJECT FOOTPRINT

	APN	Total Acreage	Net Acres Covered (PV Modules, Electrical Equipment and Access Roads)
Dixieland East Solar Farm	051-047-001		
	051-035-001	24	8
	051-035-002		
Dixieland West Solar Farm	034-390-026	29	10
Total		53	18

The development of this site would also require relinquishments of the following easements:

- Abandonment of the public service easement alley intermediate between the two existing parcels (APNs 051-035-001 and 051-035-002) on the west side of Brown Road.
- Abandonment of the northern 20 feet of Potrero Avenue from the east line of Brown Road to the west line of Canal Street.
- Abandonment of the northern 20 feet of Cocupa Avenue from the east line of Broadway Avenue to the west line of Brown Road.
- Abandonment of the eastern 40 feet of Broadway Avenue from the south line of Del Norte Avenue to the north line of Cocupa Avenue.

Figure 3-6 depicts the proposed road abandonments. A Lot Merger would also be required and include merging the boundaries of the small internal lots and the land area created through approval of the road abandonment process.

An existing concrete lined irrigation ditch runs along an elevated embankment from the Westside Main Canal to the west side of the DESF site. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps no longer supply water to the ditch but feed an existing 12-inch diameter polyvinyl chloride pressurized water line that transects the DESF site (portion east of Brown Road). This line supplies water to the Imperial Lakes Water Ski Community approximately 0.5 miles west of DESF. This water line will remain in its current location and will not be impacted by the proposed projects.

3.3.4 Dixieland West Solar Farm

The DWSF encompasses a total of 29 acres and includes one parcel of land as described in Section 3.1. Similar to the DESF, these parcels would be leased to the project applicant for the 20-year term of the Power Purchase Agreement with IID. In total, the DWSF would be capable of generating up to 3 MW AC.

As shown in Table 3-3, of the 29 total acres, approximately 10 acres (less than 30 percent of the gross area of the parcel) would be developed with solar arrays, equipment and components as well as access roads. The proposed footprint is significantly less than the full acreage because of setbacks and IID's easement, and because of the spacing between array rows (more than twice as much space between rows than is covered by the width of the arrays) that would be set aside for native vegetation during the project's operation. The project fence line and the project components would be set back at least 240 feet from W. Evan Hewes Highway. The site layout for the DWSF is illustrated in Figure 3-7.

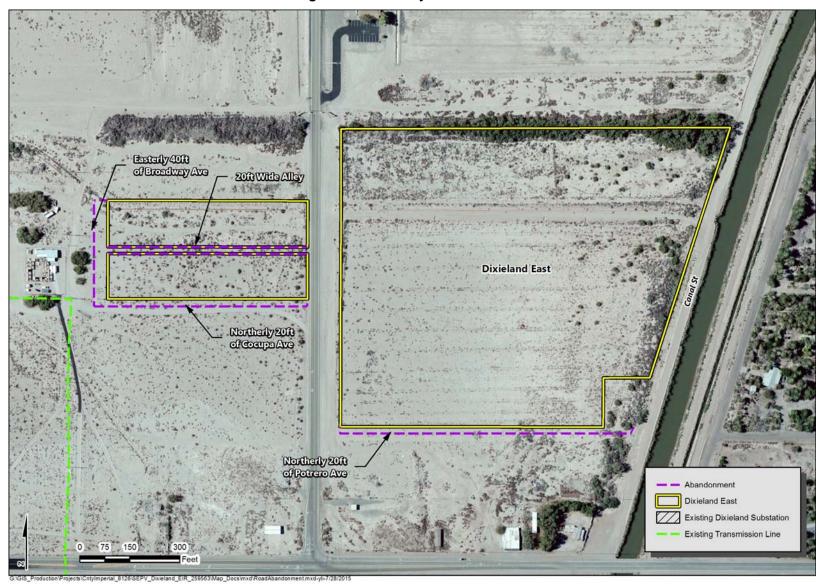


Figure 3-6. Roadway Abandonments

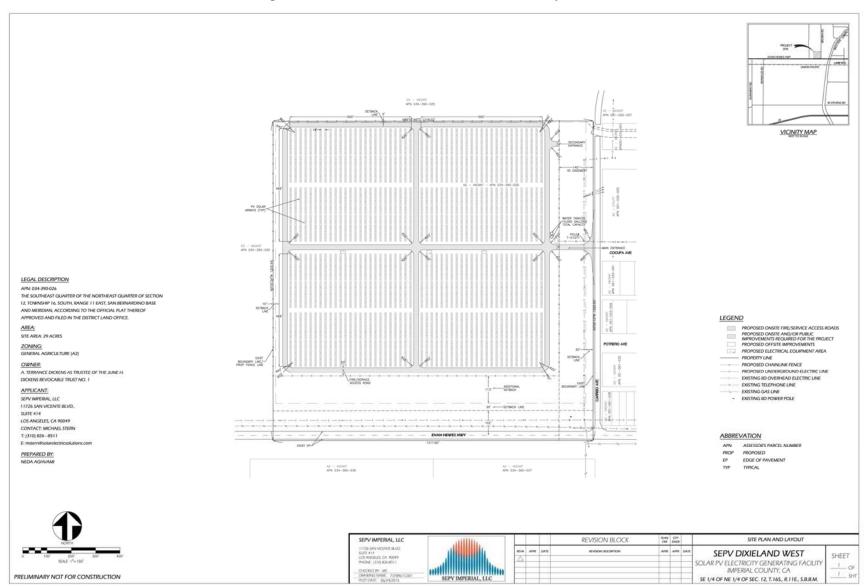


Figure 3-7. Dixieland West Solar Farm - Site Layout

3.3.5 Auxiliary Facilities

This section describes the auxiliary facilities that would be constructed and operated in conjunction with the project solar array facilities.

3.3.5.1 Site Security and Fencing

The perimeter of the project facilities would be secured with six-foot tall chain-link security fencing with barbed wire. A remotely monitored security system will be installed to discourage and record any incidents of vandalism or trespassing. Access to each of the site locations would be provided using a 20-foot minimum swinging or sliding gate. Additionally, controlled access gates would be maintained at entrances into the each of the project site locations. Emergency response personnel would be provided with manual override capability in order to access the site facilities.

3.3.5.2 Lighting System

Minimal lighting would be required for operations and would be limited to safety and security functions. Motion sensitive, directional security lights would be installed to provide adequate illumination at points of ingress/egress pursuant to County of Imperial Building Code Requirements (see Title 9, Division 3, Chapter 1: Special Development Standards, of the County's Zoning Ordinance). All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used.

3.3.5.3 Access Roads

To accommodate emergency access, PV panels would be spaced to maintain proper clearance. A 20-foot-wide access road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles (see Figures 3-5 and 3-7). The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access.

3.3.5.4 Fire Protection

The projects are located within the jurisdiction of the Imperial County Fire Department. On-site fire protection would be provided via water tanks holding 10,000 gallons on each project site. The water tanks would be located near the primary entrance of each project site. Portable fire extinguishers would be provided at various locations throughout the solar farms. Both the access and service roads (along the perimeter of the project facilities) would have turnaround areas at any dead-ends to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road).

3.3.6 Dust Suppression and Erosion Control

To minimize wind driven dust from the project sites, all clearing, grading, and significant ground disturbing activities would be stopped during periods where the wind speed exceeds 25 miles per hour (averaged over one hour). Water would be the primary means of dust control and suppression but dust palliatives may also be utilized as needed.

3.3.7 Water Supply, Treatment, and Storage

Once the projects are operational, water would be required for solar panel washing and fire protection. The project sites are within the IID's boundary and therefore would receive water service from the IID. It is estimated that over the entire construction period for the DESF and DWSF projects, approximately 10 acre-feet of water will be required for all purposes, including dust control and suppression. The actual amount of water required to be brought on site will vary depending upon site conditions such as wind speed, direction, and the amount and timing of rainfall. The project will obtain metered Temporary Water Service from the Westside Main Canal to fill water trucks on an as needed basis. This service would

likely shift to metered General Industrial Water Service once the facility is operational to allow for periodic washing of the PV modules. DESF would require approximately 7,000 gallons of water for each routine panel washing operation. Approximately 10,000 gallons of water would be required for DWSF for each routine panel washing operation.

3.3.8 Operations and Maintenance

The facilities would be remotely operated, controlled and monitored and with no requirement for daily onsite employees. Local and remote operations and maintenance staff would be on-call to respond to any alerts generated by the monitoring systems, and would be present on the site periodically to perform maintenance.

A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels. DESF would require approximately 7,000 gallons of water for each routine panel washing operation. Approximately 10,000 gallons of water would be required for DWSF for each routine panel washing operation. Replacement parts and components would be warehoused off site and deployed as needed. Most scheduled maintenance would occur during daytime hours but work may be performed at night for safety reasons.

3.4 CONSTRUCTION PROCESS FOR SOLAR FARM SITES

Construction of DESF is proposed to start in early 2016 and last up to 22 weeks. Construction of DWSF would start in early 2016 and last up to 26 weeks. The construction activities for the projects generally fall into three main phases: (1) Site Preparation; (2) System Installation; and (3) Facility Commissioning. Construction would primarily occur during daylight hours, Monday through Saturday.

To characterize and analyze potential construction impacts, maximum crew size, truck trips, and worker trips have been estimated, based on the expected construction activities. To support these activities, the main pieces of equipment that may be used at any one time during construction may include:

- Vibratory post driver
- Crawler tractors/dozer
- Dump, concrete, and tender truck
- Forklift/aerial lift/boom
- Generator/compressor
- Grader/scraper
- Roller/compactor
- Tractor/loader/backhoe
- Vibratory plate (handheld)
- Flatbed truck
- Water truck

The on-site construction workforce for each project is expected to peak (overlapping construction activities) at 30 individuals. It is anticipated that the construction workforce would commute to the site each day from local communities. The worker vehicle trips anticipated to be generated from the project assumes 20 employees that would commute alone, and 10 employees that would carpool. Additionally, construction activity trips would include several trucks arriving and departing the site each day to deliver materials, including water for dust suppression, supplies, and equipment.

Temporary construction trailers and associated work facilities would be placed on-site and utilized through the site preparation, system installation, and facility commissioning phases of the project. It is

expected that the majority of these temporary facilities would be located at a single staging area within the site boundaries. Temporary power for construction is expected to be provided through service with IID or through the use of portable generators as needed.

The coordination of construction activities amongst the projects will provide logistical synergies which will serve to reduce impacts associated with traffic, dust, and noise.

3.4.1 Site Preparation

Prior to initial construction mobilization, preconstruction surveys will be performed and any required sediment and erosion control measures will be implemented in accordance with an approved Storm Water Pollution Prevention Plan (SWPPP). Stabilized construction entrance and exits would be installed at each driveway to reduce tracking of sediment onto the adjacent public roadway. Fencing, gates and communication and security systems would be installed.

Given the relatively flat topography of the sites, and adaptability of the support structures, a minimal amount of surface smoothing and grading by wheeled or tracked scrapers and graders would be performed. A water truck(s) would be utilized for dust control purposes. The rough locations of all foundations, trenches, roads, fences, and equipment would be surveyed and marked. The internal access road would be graded and compacted as required for construction, operations, maintenance, and emergency vehicle access per the grading plan drafted by a licensed California Professional Engineer.

3.4.2 System Installation

Trenching would be performed for placement of underground electrical and communications lines, and may include the use of trenchers, backhoes, excavators, haul vehicles, compaction equipment and water trucks. Concrete required for any foundations or equipment pads would be purchased from an off-site supplier and trucked into the project sites for placement. The steel beam/tube foundations ("posts") for the support structures would be driven into the soil using vibratory or hydraulic press-in methods. Once the posts have been installed, the horizontal cross-members and other hardware/equipment associated with the single-axle tracking structural system would be placed and secured. The electronic/electrical equipment would be mounted or installed in place and electrical interconnected to IID's electrical distribution system. The PV modules would be mechanically attached to the support structure in the correct position for maximum exposure to sunlight and electrically interconnected to the inverters.

3.4.3 Facility Commissioning

Facility commissioning includes final inspections testing, start-up and certification. Once all of the equipment and components have been installed and inspected, all mechanical and electrical connections would be inspected. The facility would be brought on-line in stages starting at low power levels and methodically increasing the capacity until the facility is operating at full power. Testing would occur at every stage to correlate electricity output to weather conditions.

3.4.4 Existing Utilities

The project applicant's contractors would implement an underground services alert (USA) to identify existing underground utilities and service connections prior to commencing any excavation work. Existing utility locations would be determined by hand-excavated test pits dug at locations determined and approved by the construction manager (also referred to as "potholing"). Temporary disruption of service may be required to allow for construction. Service on such lines would not be disrupted until prior approval is received from the construction manager and the service provider.

3.5 POWER PURCHASE AGREEMENT

The projects have a 20-year Power Purchase Agreement (PPA) with the IID awarded through its Feed-in Tariff (FIT) program. SB 32, enacted in 2009, required the IID to implement a FIT. This tariff is mandated to be offered on a first-come, first-served basis. The tariff provides a simple mechanism for small renewable generators (less than 3MW) to sell power to the utility at predefined terms and conditions, without engaging in contract negotiations. Eligibility criteria for IID's FIT consists of the following:

- 1) The project must be located within the IID service territory;
- 2) The project must be between 1kW and 3MW;
- The project must be located and interconnected in a manner that optimizes deliverables of generation to load centers; and
- 4) The project must install eligible renewable generation.

Through the tariff, IID will purchase all generation from the facility and all Renewable-Energy Credits (REC) will belong to IID. The projects will help California meets its Renewable Portfolio Standard of 33 percent of retail electricity sales from renewable sources by the end of 2020.

3.6 RESTORATION OF THE PROJECT SITES

Electricity generated by the facility will be sold under the terms of a 20 year PPA with the IID. At the end of the PPA term, the owner of the facility may choose to enter into a subsequent PPA, update technology and re-commission, or decommission and remove the generating facility and its components. Upon decommissioning, the site could be converted to other uses in accordance with applicable land use regulations in effect at that time. A collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. All permits related to decommissioning would be obtained, where required.

Project decommissioning would include the following activities:

- The facility would be disconnected from the utility power grid.
- Project components would be dismantled and removed using conventional construction equipment and recycled or disposed of safely.
- PV panel support steel and support posts would be removed and recycled off-site by an approved metals recycler.
- All compacted surfaces within the project sites and temporary on-site haul roads would be decompacted.
- Electrical and electronic devices, including inverters, transformers, panels, support structures, lighting fixtures, and their protective shelters would be recycled off-site by an approved recycler.
- All concrete used for the underground distribution system would be recycled off-site by a concrete recycler or crushed on-site and used as fill material.
- Fencing would be removed and recycled off-site by an approved metals recycler.
- Gravel roads would be removed; filter fabric would be bundled and disposed of in accordance with all applicable regulations. Road areas would be backfilled and restored to their natural contour.
- Soil erosion and sedimentation control measures would be re-implemented during the decommissioning period and until the site is stabilized.

3.7 REQUIRED PROJECT APPROVALS

3.7.1 Imperial County

The County would be required to approve the following pursuant to the California Environmental Quality Act (CEQA):

- Approval of CUPs. Implementation of the solar farm projects would require the approval of two CUPs by the County to allow for the construction and operation of the proposed DESF and DWSF projects. The projects are located on a total of four privately-owned legal parcels zoned A-2 (General Agriculture). Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-2 Zone, subject to approval of a CUP.
- 2. Site Plans. Site Plan and Architectural Review is required.
- 3. **Roadway Abandonments.** The applicant is requesting the abandonment of the following easements:
 - Abandonment of the public service easement alley intermediate between the two existing parcels (APNs 051-035-001 and 051-035-002) on the west side of Brown Road.
 - Abandonment of the northern 20 feet of Potrero Avenue from the east line of Brown Road to the west line of Canal Street.
 - Abandonment of the northern 20 feet of Cocupa Avenue from the east line of Broadway Avenue to the west line of Brown Road.
 - Abandonment of the eastern 40 feet of Broadway Avenue from the south line of Del Norte Avenue to the north line of Cocupa Avenue.
- 4. Lot Line Merger. Approval of a Lot Merger application for APN 051-047-001 to create a single lot/parcel by merging the boundaries of the small internal lots and those portions of Cocupa Avenue, Cyuma Street, Del Norte Avenue and the unnamed alleys vacated by resolution recorded August 19, 1954, as Instrument No. 11, in Book 891, Page 575 of Official Records and those portions of Canal Street vacated by resolution recorded May 10, 1962, as Instrument No. 82, in Book 1110, Page 435 of Official Records. The Lot Merger will also include the land area created through approval of the road abandonment process.
- 5. **Certification of the EIR.** After the required public review for the Draft EIR, the County will respond to written comments, edit the document, and produce a Final EIR to be certified by the Planning Commission and/or Board of Supervisors prior to making a decision on the projects.
- 6. Reclamation Plans. The project applicant has prepared a site reclamation plan for each of the projects (EIR Appendix L). As required by the County, when the projects are decommissioned at the end of their life spans, the project applicant or its successor in interest would be responsible for implementing the reclamation plan, which includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the sites, as well as restoration of the site to its pre-project condition. The County is responsible for approving the reclamation plan for each project and confirming that financial assurances for each of the projects are in conformance with Imperial County ordinances.

Subsequent ministerial approvals may include, but are not limited to:

- Grading and clearing permits;
- Building permits;
- Septic system permits;
- Occupancy permits; and
- Encroachment permits.

3.7.2 Discretionary Actions and Approvals by Other Agencies

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

- Imperial Irrigation District Encroachment Permit.
- Imperial Irrigation District Water Supply Agreements
- Imperial County Fire Department Approval of Final Design of the Proposed Fire System.
- California Regional Water Quality Control Board Notice of Intent for General Construction Permit.
- California Department of Fish and Wildlife (Trustee Agency) Endangered Species Act Compliance, Burrowing Owl Mitigation.
- U.S. Fish and Wildlife Service Endangered Species Act Compliance.
- Imperial County Air Pollution Control District Rule 801 Compliance.

4.0 INTRODUCTION TO ENVIRONMENTAL ANALYSIS

This section provides an overview of the environmental analysis and presents the format for the environmental analysis in each topical section.

4.0.1 ORGANIZATION OF ISSUE AREAS

This chapter provides an analysis of impacts for those environmental topics that the County determined could result in "significant impacts." Sections 4.1 through 4.14 discuss the environmental impacts that may result with approval and implementation of the projects. Each environmental issue area in Chapter 4 contains a description of the following:

- The environmental setting as it relates to the specific issue;
- The regulatory framework governing that issue;
- The threshold of significance (from Appendix G of the California Environmental Quality Act (CEQA) Guidelines);
- The methodology used in identifying and considering the issues;
- An evaluation of the project-specific impacts and identification of mitigation measures;
- A determination of the level of significance after mitigation measures are implemented; and
- The identification of any residual significant impacts following mitigation.

4.0.2 FORMAT OF THE IMPACT ANALYSIS

This analysis presents the potential impacts that could occur under the projects along with any supporting mitigation requirements. For each impact statement, the impact discussion is sub-divided, as appropriate, to differentiate between the environmental effects for each project described in the Chapter 3, Project Description:

- Dixieland East Solar Farm (DESF); and
- Dixieland West Solar Farm (DWSF).

Where similar environmental impacts would occur, the impact discussion for the projects is consolidated. Likewise, in instances where impacts would be different, the discussion is separated accordingly to distinguish between key differences in the level of impact. Subheadings and sub-numbering is used, where appropriate, for transitions between major topics and particular distinctions in impact determinations for sub-issues covered by the impact statement. Terminology used in describing the range of impact mechanisms follows that described below. Where mitigation is prescribed, the analysis clearly indicates to which project(s) it would apply.

Each section identifies the resulting level of significance of the impact using the terminology described below following the application of the proposed mitigation. The section includes an explanation of how the mitigation measure(s) reduces the impact in relation to the applied threshold of significance. If the impact remains significant (i.e., at or above the threshold of significance) additional discussion is provided to disclose the implications of the residual impact and indicate why no mitigation is available or why the applied mitigation does not reduce the impact to a less than significant level.

4.0.3 DETERMINATION OF IMPACT SIGNIFICANCE

Changes that would result from the projects were evaluated relative to existing environmental conditions within the project sites as defined in Chapter 3 and illustrated in Figure 3-2. Existing environmental conditions are based on the time at which the Notice of Preparation was published on May 15, 2015. In

evaluating the significance of these changes, this Environmental Impact Report (EIR) applies thresholds of significance that have been developed using (1) criteria discussed in the CEQA Guidelines; (2) criteria based on factual or scientific information; and (3) criteria based on regulatory standards of local, state, and/or federal agencies. Mechanisms that could cause impacts are discussed for each issue area.

This EIR uses the following terminology to denote the significance of environmental impacts of the projects:

- No impact indicates that the construction, operation, and maintenance of the project would not
 have any direct or indirect effects on the environment. It means no change from existing
 conditions. This impact level does not need mitigation.
- A less than significant impact is one that would not result in a substantial or potentially substantial
 adverse change in the physical environment. This impact level does not require mitigation, even if
 feasible, under CEQA.
- A significant impact is defined by CEQA Section 21068 as one that would cause "a substantial, or
 potentially substantial, adverse change in any of the physical conditions within the area affected
 by the project." Levels of significance can vary by project, based on the change in the existing
 physical condition. Under CEQA, mitigation measures or alternatives to the projects must be
 provided, where feasible, to reduce the magnitude of significant impacts.
- An unmitigable significant impact is one that would result in a substantial or potentially substantial
 adverse effect on the environment, and that could not be reduced to a less than significant level
 even with any feasible mitigation. Under CEQA, a project with significant and unmitigable impacts
 could proceed, but the lead agency would be required to prepare a "statement of overriding
 considerations" in accordance with State CEQA Guidelines CCR Section 15093, explaining why
 the lead agency would proceed with the project in spite of the potential for significant impacts.

4.1 AESTHETICS AND VISUAL RESOURCES

This section provides a description of the existing visual and aesthetic resources within the project area and pertinent federal, state, and local plans and policies regarding the protection of scenic resources. This section incorporates visual simulations prepared by Solar Electric Solutions, LLC (June 2015). The visual simulations are included in Appendix B of this Environmental Impact Report (EIR).

4.1.1 Environmental Setting

The project area is located in the Dixieland area in unincorporated Imperial County, California. The Yuha Desert is generally located to the west and is comprised of upland desert landscape that transitions into the Peninsular Mountain Range that extends south into Mexico. Carrizo Mountain rises 2,400 feet above mean sea level in the southern Yuha Desert, and is the prominent visual landscape feature west of the project sites. The eastern-most boundary of the project sites (Dixieland East) borders the Westside Main Canal, and is approximately 11.5 miles west of El Centro, California. Areas to the east of the project area (that is, east of the Westside Main Canal), are generally level and characterized as an agriculturally dominated landscape. Views to the north, south, and west are characterized as a desert environment. Prominent visual features near the project sites include an agricultural canal (Westside Main Canal) that supply water to the agricultural areas, the IID Dixieland substation, scattered agricultural structures or residences, and the Centinela State Prison.

4.1.1.1 Regulatory Setting

Federal

No federal visual resource regulations would apply to the proposed project.

State

California Department of Transportation

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program. The goal of the program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the scenic corridor (Caltrans, 2008). The project sites are located approximately 1.25 miles north of the I-8 freeway. A portion of I-8 is listed in the Caltrans Scenic Highway designation of an "Eligible State Scenic Highway – Not Officially Designated" for the segment extending from the City of El Cajon until the junction of SR-98, where it terminates. The junction of I-8 and SR-98 is located approximately 15 miles west of the project sites.

Local

Imperial County General Plan

The Imperial County General Plan (Imperial County, as amended 2008) contains policies for the protection and conservation of scenic resources and open spaces within the County. These policies also provide guidance for the design of new development. The Conservation and Open Space Element of the General Plan provides specific goals and objectives for maintaining and protecting the aesthetic character of the region. Table 4.1-1 provides an analysis of the project's consistency with the Conservation and Open Space Element Goal 7. Additionally, the Circulation and Scenic Highways Element of the General Plan provides policies for protecting and enhancing scenic resources within highway corridors in Imperial County, consistent with Caltrans State Scenic Highway Program.

TABLE 4.1-1. CONSISTENCY WITH APPLICABLE GENERAL PLAN CONSERVATION AND OPEN SPACE POLICIES

General Plan Policies	Consistency with General Plan	Analysis
Goal 7: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Consistent	The projects would result in changes to the visual character of the project area, which is currently characterized as a desert landscape. As described in the Existing Conditions, Section 4.1.1.2, the project sites do not contain high levels of visual character or quality; therefore, the projects would not result in a significant deterioration in the visual character of the project sites or project area. Additionally, the projects would interconnect with existing transmission facilities, thereby limiting their overall footprint, which would limit their encroachment into background views of mountains. The PV modules, at their highest point of the solar tracking during the day, would be less than nine feet above the ground surface and would not distract from the overall unity of the viewshed facing the mountains. DWSF's project fence line and the project components will be set back at least 240 feet from Evan Hewes highway to minimize visual impacts.
Objective 7.1: Encourage the preservation and enhancement of the natural beauty of the desert and mountain landscape.	Consistent	The project study area is located adjacent to an agricultural area and is located within a previously disturbed desert habitat. The project sites are not considered a "desert landscape" due to the disturbed nature and proximity to agricultural land uses.

4.1.1.2 Existing Conditions

4.1.1.2.1 Existing Visual Resources

The project sites are located on vacant land in a desert environment with limited natural vegetation, and large scale agricultural lands located to the east. Additional land uses surrounding the project sites include residential, recreational, and a state prison facility located north of the project sites.

The agricultural lands are located to the east and desert views to the west of the Peninsular Range Mountains (Carrizo Mountain) are considered "typical" views in Imperial County. The Westside Main Canal borders the Dixieland East Solar Farm (DESF) project site. Imperial Lakes Water Ski Community, a manmade recreation facility with bordering residences is located approximately 0.25 mile west of Dixieland West Solar Farm DWSF. The Dixieland electrical substation is located between the two project sites. The background views of the mountains would be considered the only existing visual resource in the area.

A site reconnaissance was conducted to identify visual resources in the project area, including the project sites. Key observation points (KOPs) within the project area were selected based on the public viewing areas. A general description of the visual quality for the project area is described below. To capture the existing visual quality for each of the project components, views within the project area were photodocumented. Visual simulations were completed by Solar Electric Solutions, LLC to provide a visual representation of the solar arrays (Appendix B of this EIR). Figures 4.1-1 and 4.1-2 illustrate the photodocumented key observation points and the direction to which the photographs were taken. The photographs depicting the existing condition at each project site are presented in Section 4.1.2.3, Impact Analysis along with visual simulations at each key view point depicting the proposed condition.

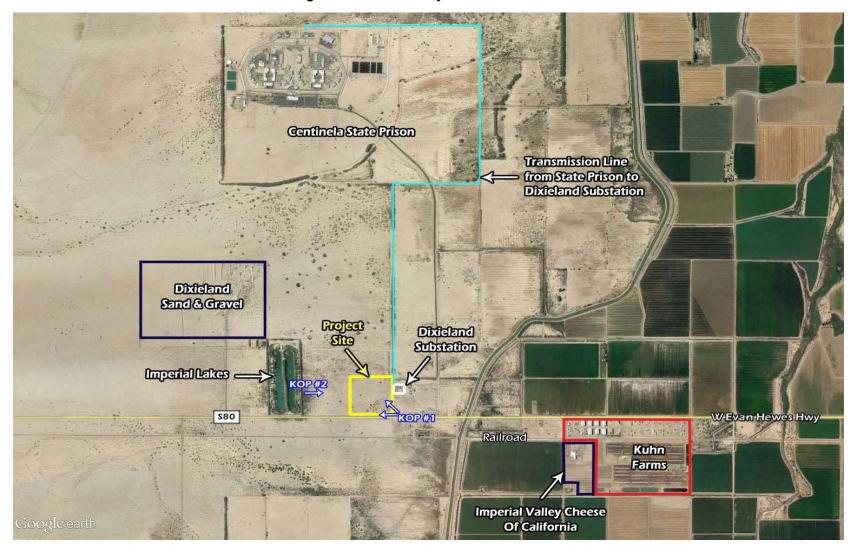


Figure 4.1-1. DWSF Key Observation Points

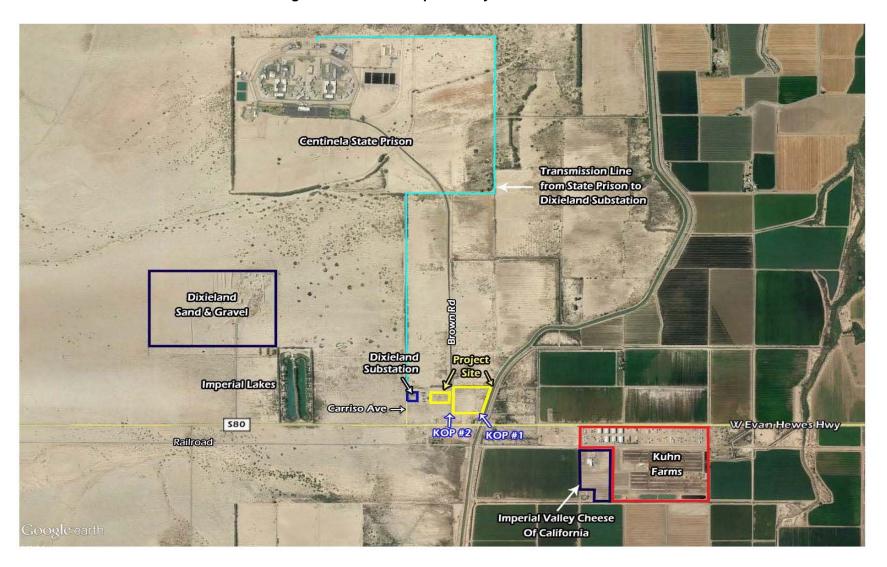


Figure 4.1-2. DESF Proposed Key Observation Points

The viewer's distance from landscape elements plays an important role in the determination of an area's visual quality. Landscape elements are considered higher or lower in visual importance based on their proximity to the viewer, which contribute to a project area's overall viewshed. Generally, the closer a resource is to the viewer, the more dominant, and therefore visually important, it is to the viewer.

Federal Highway Administration Assessment Method

The Federal Highway Administration (FHWA) methodology outlined in the *Visual Impact Assessment for Highway Projects* (1981) was used for this visual assessment. Per the FHWA guidelines, the aesthetic quality of an area is determined through the variety and contrasts of the area's visual features, the character of those features, and the scope and scale of the scene. The FHWA separates landscapes into foreground, middleground, and background views. Although this should be considered on a case-by-case basis, in general, the foreground is characterized by clear details (0 up to 0.25 - 0.5 mile from the viewer); the middleground is characterized by loss of clear texture within a landscape creating a uniform appearance (up to 0.25 - 0.5 to 0.05 to 3 - 5 miles in the distance); and the background extends from the middleground (3 - 5 miles) to the limit of human sight. The FHWA foreground, middleground, and background view approach is used for describing the relative quality of each of these landscapes.

The aesthetic quality of an area depends on the relationship between its features and their importance in the overall view. Evaluating resource change requires a method that: (1) characterizes visual character; and (2) assesses their quality (vividness, intactness, and unity). The viewer exposure and viewer sensitivity is evaluated to determine the viewer response. The resource change is combined with the viewer response to determine the overall visual impact. Figure 4.1-3 illustrates this FHWA methodology and the FHWA terminology definitions are listed below.

The FHWA attributes of form, dominance, scale, and continuity were used to determine the overall existing visual character. Vividness, intactness, unity were then applied to determine the visual quality. These visual resource changes were then combined with the viewer response to determine the visual impacts of the projects as discussed further in Section 4.1.2.3, Impact Analysis.

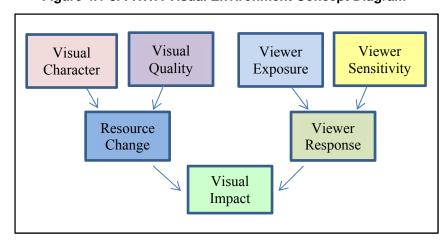


Figure 4.1-3. FHWA Visual Environment Concept Diagram

Visual impacts related to the visual environment are characterized by their potential levels of change based on these following category ratings:

- **Low** (L) Minor adverse change to the existing visual resource, with low viewer response to change in the visual environment. May or may not require mitigation.
- Moderately Low (ML) Low negative change to the visual resource with a moderate viewer response, or moderate negative change to the resource with a low viewer response. Impact can be mitigated.

- **Moderate (M)** Moderate adverse change to the visual resource with moderate viewer response. Impact can be mitigated within five years using conventional practices.
- Moderately High (MH) Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response. Extraordinary mitigation practices may be required. Landscape treatment required will generally take longer than five years to mitigate.
- **High (H)** –A high level of adverse change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high. An alternative project design may be required to avoid highly adverse impacts.

Assessing Visual Resources

Visual Character

Visual character includes attributes such as form, dominance, diversity, and continuity (as described below) to describe, not evaluate visual character; that is these attributes are neither considered good nor bad. However, a change in visual character can be evaluated when it is compared with the viewer response to that change. Changes in visual character are identified by how visually compatible a project would be with the existing condition by using visual character attributes as an indicator. For this project, the following pattern characters or attributes were considered:

- Form visual mass or shape;
- Dominance position, size, or contrast;
- Diversity pattern elements, as well as the variety among them;
- Continuity uninterrupted flow of form, line, color, or textural pattern.

Visual Quality

Both natural and created features in a landscape contribute to its visual quality. Landscape characteristics influencing visual quality include geologic, hydrologic, botanical, wildlife, recreation, and urban features. Several sets of criteria have been developed for defining and evaluating visual quality.

According to these criteria, none of these is itself equivalent to visual quality; all three must be considered high to indicate high quality. The visual quality terms are defined as follows:

- Vividness is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
- Intactness is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
- Unity is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Assessing Viewer Response

Viewer response is based on the viewer exposure (location, quantity, and duration) combined with the viewer sensitivity (activity, awareness, and local values), as described in the following definitions:

Viewer Exposure

• Activity relates to the preoccupation of viewers. Are they preoccupied, thinking of something else, or are they truly engaged in observing their surroundings. The more they are actually observing their surroundings, the more sensitivity viewers will have of changes to visual resources.

- Awareness relates to the focus of view. If the focus is wide and the view general or the focus is narrow and the view specific the more specific the awareness, and the more sensitive a viewer is to change.
- Local values and attitudes also affect viewer sensitivity. If the viewer group values aesthetics in
 general or if a specific visual resource has been protected by local, state, or national designation,
 it is likely that viewers will be more sensitive to visible changes.

Viewer Sensitivity

- Location relates to the position of the viewer in relationship to the object being viewed. The closer the viewer is to the object, the more exposure.
- Quantity refers to how many people see the object. The more people who can see an object or the greater frequency an object is seen, the more exposure the object has to viewers.
- Duration refers to how long a viewer is able to keep an object in view. The longer an object can be kept in view, the more exposure. High viewer exposure helps predict that viewers will have a response to a visual change.

Table 4.1-2 provides the visual impact ratings, and how they are quantified. The table illustrates how the combination of resource change and viewer response is used to determine the resource impact further discussed in Section 4.1.2.3, Impact Analysis.

	Viewer Response									
	Ratings	Low (L)	Moderately- Low (ML)	Moderate (M)	Moderately- High (MH)	High (H)				
Resource Change	Low (L)	L	ML	ML	M	M				
sou	Moderately Low (ML)	ML	ML	M	M	MH				
C gs	Moderate (M)	ML	M	М	MH	HM				
	Moderately High (MH)	M	M	MH	MH	Н				
	High (H)	М	MH	MH	Н	Н				

TABLE 4.1-2. FHWA VISUAL IMPACT RATINGS

Visual Character

The project sites are located at the intersection of an agricultural landscape (to the east) and a desert landscape (to the west). The area possesses a continuous pattern between the two landscapes because there are no dominant features. The diversity in the area comes from the intersection of the two landscapes; however, most of the desert landscape has been previously disturbed and is considered to have a low visual character.

Visual Quality

DWSF

The landscape in the vicinity of DWSF is characterized by level terrain. Foreground views include the Dixieland electrical substation to the east and associated power lines, Imperial Lakes Water Ski Community with residences to the west, and desert terrain to the north and south. Middleground views consist of the Dixieland Sand and Gravel mine, open fields, isolated trees, scattered agricultural structures or residences, and desert terrain. In addition, the Centinela State Prison is located approximately two miles to the north, and Interstate 8 (I-8) is located 1.25 miles to the south. Background views consist of mountain to the east.

The prominent visual features in the area are agriculture farmland and desert terrain depending on the view direction. The visual quality of the project site is assessed below.

- **Vividness:** The foreground is characterized by typical views of desert vegetation. No unique physical or geographic features add to the vividness of the project site. Due to the level terrain, the agriculture in the middleground view is barely visible. No distinctive views of the surrounding mountains in the background or memorable landscapes are visible from this project site. The DWSF project site is considered to have low vividness.
- Intactness: The landscape can be characterized as a desert landscape, with the exception of the trees that line the Imperial Lakes Water Ski Community area. Considering the adjacent electrical substation and associated power lines in the foreground, and the Centinela State Prison and the Dixieland Sand and Gravel mine in the middleground view, the project site has some visual intrusions to the area. In addition, off-site agricultural ground disturbing activities (plowing) causes particulate matter into the air which compromises visibility. Furthermore, the air quality is reduced during high temperature events, further reducing the background views of the mountains. The compromised air quality acts like a visual intrusion to the background views. The DWSF project site is considered to have a moderately low level of intactness.
- *Unity:* The project area is predominately desert terrain which results in a harmonious visual pattern. The DWSF project site is considered to have a moderately high level of unity.

As described above, the DWSF project site has low vividness, moderately low intactness, and moderately high visual unity, resulting in a moderate visual quality.

DESF

Considering the close proximity of DESF to DWSF, the visual quality is the same. Similar to DWSF, the landscape in the vicinity of the DESF project site is characterized by level terrain. Foreground views include the Westside Main Canal, and a residence to the east. The remaining area includes desert terrain with power lines. Middleground views consist of Imperial Lakes Water Ski Community with residences to the west, open fields, isolated trees, scattered agricultural structures or residences, and desert terrain. In addition, the Centinela State Prison is located approximately two miles to the northwest, Dixieland Sand and Gravel mine 1.4 miles to the west, and I-8 is located 1.25 miles south of the project site. Background views consist of mountain to the east.

The prominent visual features in the area are agriculture farmland and desert terrain depending on the direction. No distinctive mountain background views are present from this key viewpoint. The visual quality of the project site is assessed below.

- Vividness: The foreground is characterized by typical views of desert vegetation. No unique
 physical or geographic features add to the vividness of the project site. Due to the level terrain,
 the agriculture in the middleground view is barely visible. No distinctive views of the surrounding
 mountains in the background or are considered memorable landscapes from this project site. The
 DESF project site is considered to have low vividness.
- Intactness: The landscape can be characterized as a desert landscape, with the exception of the trees that line the Imperial Lakes Water Ski Community area. Considering the nearby electrical substation and associated power lines in the foreground, and the Centinela State Prison and the Dixieland Sand and Gravel mine in the middleground view, the project site has some visual intrusions to the area. In addition, off-site agricultural ground disturbing activities (plowing) causes particulate matter into the air which compromises visibility. Furthermore, the air quality is reduced during high temperature events, further reducing the background views of the mountains. The compromised air quality acts like a visual intrusion to the background views. The DESF project site is considered to have a moderately low level of intactness.
- **Unity:** The project area is predominately desert terrain which results in a harmonious visual pattern. The DESF project site is considered to have a moderately high level of unity.

As described above, the DESF project site has low vividness, moderately low intactness, and moderately high visual unity, resulting in a moderate visual quality.

The combination of the low visual character combined with a moderate visual quality, both project sites contain a moderately low existing visual resource as shown in Table 4.1.3, Existing Visual Resource Determinations.

TABLE 4.1-3. EXISTING VISUAL RESOURCE DETERMINATIONS

Project Study Area	Visual Character	+	Visual Quality		Existing Visual Resource
DWSF	L		М		ML
DESF	L		M		ML

The project sites would be seen by two types of sensitive viewer groups: roadway travelers along West Evan Hewes Highway (or S80), and people residing or working (residential users) near the project area.

Roadway Travelers

- Exposure: West Evan Hewes Highway is situated south and adjacent to both of the project sites, however, it is not a heavily traveled roadway. These travelers are anticipated to be residents who live in the area or farm workers that work in the area. Roadway speeds in the area are anticipated to be between 45 to 65 miles per hour (mph). The terrain within the project area is relatively flat, which provides open space viewing opportunities. Roadway Traveler's (traveling towards the west) awareness would be visually drawn toward the background views of the Coyote Mountains to the west. Roadway traveler exposure is considered to be moderate.
- Sensitivity: The outlying area of Dixieland has a limited population due to the agricultural nature and does not contain a diverse visual environment. Given the limited population in this area, the roadway traveler sensitivity is considered to be low.

Residential

- Exposure: The residences in this area are primarily associated with people living and working in the agricultural industry. This viewer type has a prolonged view of the area. The nearest residences to the DESF site are east of the canal along Foxglove Street, and in a trailer located at the northwest corner of West Evan Hewes Highway and Canal Street. Another single family residence adjacent to DESF is approximately 120 feet west of the western edge of the site, adjacent to the Imperial Irrigation District (IID) substation. Approximately 1,500 feet west of DWSF is the Imperial Lakes Development which includes 20 residences surrounding two man-made lakes. These locations are illustrated in Figure 4.3-1, Residence Locations. This housing area is shielded by trees along the perimeter of the development reducing the potential views of the project sites. Given the limited view from these residences, the residential viewer exposure is considered low.
- Sensitivity: Residents are generally considered a sensitive viewer group due to the prolonged exposures (potentially 24 hours a day). Residents typically have an elevated concern regarding views from their homes that correlate to property values and would be considered engaged in their surrounding visual environment. Given the limited number of residences in the area with limited views of the project sites and the farming operations in the area, the residential viewer's sensitivity is considered moderate.

The viewer response within the project area is considered to be moderately low. Table 4.1-4 provides a summary of the FHWA viewer response ratings for each of the project sites.

TABLE 4.1-4. FHWA VIEWER RESPONSE RATINGS

Viewer Type	Viewer Exposure	+	Viewer Sensitivity	=	Viewer Response
Roadway Travelers	М		L		ML
Residential Viewers	L		M		ML

Light, Glare, and Glint

Glare is considered a continuous source of brightness, relative to diffused light, whereas glint is a direct redirection of the sun beam in the surface of a PV solar module. Glint is highly directional, since its origin is purely reflective, whereas glare is the reflection of diffuse irradiance; it is not a direct reflection of the sun.

Due to the nature of the existing agricultural land uses and few residences, limited light is generated from within the project area. The majority of the light and glare that emits within the project sites is a result of motor vehicles traveling on surrounding roadways, airplanes, and farm equipment. Local roadways generate glare both during the night hours when cars travel with lights on, and during daytime hours because of the sun's reflection from cars and pavement surfaces. Additional sources of light and glare include exterior and interior building lighting, in addition to windows and reflective building materials such as metal roofs. When light is not sufficiently screened and spills over into areas outside of a particular development area the effect is called "light trespassing."

4.1.1.2.2 Scenic Roadway Designation

The nearest officially designed as an eligible state scenic highway is I-8 at the junction of SR-98 near Coyote Wells, approximately 15 miles to the west.

4.1.2 Impacts and Mitigation Measures

4.1.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to visual resources are considered significant if any of the following occur:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.2.2 Methodology

This visual impact analysis is based on field observations, visual simulations created by Solar Electric Solutions, LLC (Appendix B of this EIR), as well as a review of maps and aerial photographs for the project area.

The analysis of potential impacts was based on changes to the existing visual character that would result from project implementation. In making a determination of the extent and implications of the visual changes, consideration was given to:

- Specific changes in the visual composition, character, and valued qualities of the affected environment;
- The visual context of the affected environment;
- The extent to which the affected environment contained places or features that have been designated in plans and policies for protection or special consideration; and
- The numbers of viewers, their activities, and the extent to which these activities are related to the aesthetic qualities affected by the project-related changes.

It should be noted that an assessment of visual quality is a subjective matter, and reasonable people can disagree as to whether alteration in the visual character of the project area would be adverse or beneficial. For this analysis, a conservative approach was taken, and the potential for substantial change to the visual character of the project sites area is generally considered a significant impact.

4.1.2.3 Impact Analysis

IMPACT Substantial Adverse Effect on a Scenic Vista.

4.1-1 Implementation of the projects would not degrade of the visual quality of a scenic vista.

Dixieland East Solar Farm and Dixieland West Solar Farm

The perimeter of the project facilities would be secured with six-foot tall chain-link security fencing with barbed wire. A remotely monitored security system will be installed to discourage and record any incidents of vandalism or trespassing. Access to each of the site locations would be provided using a 20 feet minimum swinging or sliding gate. Additionally, controlled access gates would be maintained at entrances into the each of the project site locations. Emergency response personnel would be provided with manual override capability in order to access the site facilities.

As stated in Section 4.1.1, the project sites are located in the western portion of the Imperial Valley, adjacent to an agricultural landscape. The project sites are not located within an area containing a scenic vista designated by the State or the County's General Plan (Imperial County, amended 2008). None of the key observation points described in Section 4.1.1.2 characterize the physical attributes necessary to qualify as a designated scenic vista; however, there are scenic mountains identified as background views of the project. The solar arrays (up to a height of 30 feet) and collector lines would extend along private lands, traversing the project area both west to east and north to south along major roads and other local roadways.

The solar arrays would not create a visual obstruction for the background views of the mountains. Furthermore, due to the agricultural ground disturbing activities (plowing) particulate matter in the air is increased, which compromises the visibility in the area. In addition, air quality is reduced during high temperature events, further impeding the background views of the mountains. The low air quality acts like a visual intrusion to the background views. Based on these factors, implementation of the projects would not have a substantial direct or indirect effect on a scenic vistas and **no impact** is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Substantial Adverse Effect on a Scenic Highway.

Implementation of the projects would not result in substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and ridgelines within a state scenic highway.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites are located approximately 1.25 miles north of I-8. The I-8 freeway has the Caltrans Scenic Highway designation of an "Eligible State Scenic Highway – Not Officially Designated" from the city of El Cajon until the junction of SR-98, where it terminates. The junction of I-8 and SR-98 is located approximately 15 miles west of the project sites. The views to the project sites from I-8 are limited due to the level terrain in the area. No scenic resources have been identified on the project sites. Based on these considerations, the projects would not result in damage to scenic resources, including trees, rock outcroppings, or historic buildings, including those listed as eligible for the Scenic Highway Program (May, 2014). The proposed project would not result in impacts to scenic highways. **No impact** is identified for this issue area.

4.1-2

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Changes to Visual Character

4.1-3 , ,

Implementation of the projects would not substantially degrade the existing visual character or quality of the project sites and their surroundings.

The DESF project site consists of three parcels totaling 24 acres within the eastern portion of the project area. The project site is generally located between the Westside Main Canal to the east and the Dixieland Substation to the west with W. Evan Hewes Highway to the south. Primary and secondary access to DESF is via W. Evan Hewes Highway to Brown Road.

The DWSF project site consists of one parcel totaling 29 acres within the western portion of the project area. The project site is generally bounded by W. Evan Hewes Highway to the south, vacant land to the west and north, and the Dixieland Substation on the east. The Imperial Lakes Estates is located approximately 1,500 west of the DWSF project site. Primary and secondary access to the DWSF is via W. Evan Hewes Highway to Carriso Avenue. Carriso Avenue extends north of W. Evan Hewes Highway along the eastern perimeter of the site. The Imperial Irrigation District's existing electrical distribution line runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot-wide IID transmission easement.

The projects consist of the construction of solar arrays, access roads and security fencing. The project components would result in a change of the existing land use at the two project sites from partially disturbed habitat to a solar facility. This would alter the visual character of the project area, both in terms of the on-site features proposed under the projects and in the context of the study area's relationship within the currently surrounding desert landscape. Surrounding land uses consists of vacant desert land, rural residential, and agricultural. The Centinela State Prison is located approximately two miles to the northwest. The project sites have the potential to be used for agricultural purposes as the sites are designated as Agriculture under the County's General Plan (as amended through 2008) and zoned as General Agriculture (A-2).

Each of these frames of reference is considered under the associated headings below.

On-site Changes to Existing Visual Character

As previously described, the project sites are currently disturbed natural habitat. No distinctive visual resources, with the exception of background views of the mountains are located within the general area. Construction of the projects would alter the existing visual character of the project areas and their surroundings as a result of converting existing vacant desert land to a small-scale solar energy facility. The general area is essentially flat; therefore, no substantial site grading and landform change would occur. Although the project sites would be visually disrupted in the short-term during construction due to soil disturbance activities, these activities would not be more disruptive than existing agricultural operations that also have soil disturbance activities. Because extensive grading would not be required, these activities would be temporary. The visual character of the project sites during construction would not be substantially degraded in the short-term and related impacts would be considered **less than significant**.

Dixieland East Solar Farm and Dixieland West Solar Farm

As discussed in Chapter 3.0, the major generation equipment that would be installed in conjunction with the projects includes solar arrays, and ancillary equipment that includes; switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment. Additional auxiliary facilities would include lighting and security systems. As described in Chapter 3.0, the project sites would be enclosed by a 6-foot security fence.

Visual simulations were created for five KOPs of the project sites (as identified in Figures 4.1-1 and 4.1-2) to represent "typical views" that are associated with the project components. Figures 4.1-4 through 4.1-8 present the existing conditions and visual simulations to illustrate the visual representation of the proposed condition to illustrate the potential changes of the visual environment.

Visual simulations (also termed "photographic simulations" or "photo-simulations") are realistic, computer-generated, three-dimensional images of a project that simulate certain project features in their context (as they would be seen from critical views and under specific viewing conditions), matching baseline photographs of the same views. These conditions include angle of view, distance, and time of day, ambient lighting, and atmospheric perspective (the attenuation of details due to particulates or moisture). The computer imaging is generally restricted to features of the project, with the context being represented by a photograph. The image and photograph are then blended to realistically portray the project in its context. Three-dimensional (3-D) photo-simulations are simulations based on a photographic montage and 3-D modeling of geographic elevation information with other associated pertinent information that is representative and accurate.

Current industry standard procedures were used for the development of the visual simulations, resulting in the visual simulation that is both seamless and accurate. The photo simulations presented are by no means representative of all views affected. They are included to provide the reader with a better overall sense of project changes to the existing environment as well as to help visualize public perception and responses to these changes.

As previously discussed, the existing visual resources in the area are limited to the background views of the Peninsular Range Mountains that include Carrizo Mountain. The views to the project sites from I-8 are limited due to the level terrain in the area. No scenic resources have been identified on the project sites.

The project sites would have similar visual impacts. Figures 4.1-4 through 4.1-8 illustrates the visual changes from five perspective KOPs. The changes from the existing condition to the proposed condition would have a significant visual change from a disturbed habitat to a solar farm facility. As stated in the Existing Conditions, Section 4.1.1.2, the sites have low vividness, moderately low intactness, and moderately high visual unity, resulting in a moderate low visual quality. The combination of the low visual character and moderate visual quality results in a moderately low existing visual resource.

Roadway travelers would have a moderate viewer exposure and low sensitivity resulting in a moderately low viewer response. Given the limited views of the project area, residential viewers having a low exposure, combined with a moderately low sensitivity results in a moderately low viewer response.

The surrounding area has a moderately low existing visual quality, and no resources were identified in the area with the exception of the background views of the mountains. The proposed heights of project components would not obscure the background views of the mountains. In addition, the power lines that will connect with the existing substation would be similar to the existing conditions in the area.

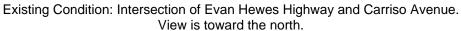
Figures 4.1-4 through 4.1-8 illustrate that the impacts would be similar across the two project sites. The viewer response ratings as identified in Table 4.1-5, Summary of Key View Ratings, are considered to be moderately low, combined with a moderately low resource change that would result in a moderately low visual impact due to the construction of the project, these changes would have a **less than significant** impact on the existing onsite visual character.

Existing **Project Study** Key Visual Viewer Resource Visual View Resource Impact Area Response Change 1 ML ML ML ML **DESF** 2 ML ML ML ML ML ML ML ML 1 **DWSF** 2 ML ML ML ML

TABLE 4.1-5. SUMMARY OF KEY VIEW RATINGS



Figure 4.1-4. Existing and Proposed Views at DWSF KOP 1 (looking north)

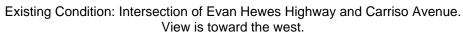




Proposed Condition: View of the solar arrays.



Figure 4.1-5. Existing and Proposed Views at DWSF KOP 1 (looking west)

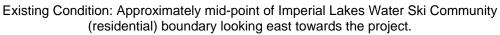




Proposed Condition: View of the solar arrays.



Figure 4.1-6. Existing and Proposed Views at DWSF KOP 2

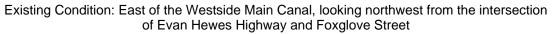




Proposed Condition: View of the solar arrays.



Figure 4.1-7. Existing and Proposed Views at DESF KOP 1

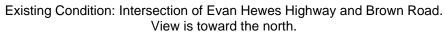




Proposed Condition: View of the solar arrays



Figure 4.1-8. Existing and Proposed Views at DESF KOP 2





Proposed Condition: View of the solar arrays

Mitigation Measure(s)

No mitigation measures are required.

IMPACT

New Sources of Nighttime Lighting and Glare.

4.1-4

The projects would not create new source of light and glare, which could adversely affect day or nighttime views in the project area.

Dixieland East Solar Farm and Dixieland West Solar Farm

As described in Chapter 3.0, the projects would include new sources of nighttime lighting. In addition, given the nature of the projects (e.g., solar facilities), this discussion also considers potential glare-related impacts generated by the proposed solar arrays. This discussion considers each issue under the associated headings below.

Nighttime Lighting

Minimal lighting would be required for operations and would be limited to safety and security functions. Motion sensitive, directional security lights would be installed to provide adequate illumination at points of ingress/egress pursuant to County of Imperial Building Code Requirements (see Title 9, Division 3, Chapter 1: Special Development Standards, of the County's Zoning Ordinance). All lighting will be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass in accordance with applicable County requirements. If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used. Based on these considerations, the projects are not anticipated to create a new source of substantial light which would adversely affect nighttime views in the project area and the impact is considered **less than significant**.

Glare and Glint

The projects would involve the installation of PV solar systems, which convert sunlight directly into electricity, and by their shear nature, are non-reflective. By nature, PV panels are designed to absorb as much of the solar spectrum as possible in order to convert sunlight to electricity and are furnished with anti-reflective coating for that purpose. Reflectivity levels of solar panels are decisively lower than standard glass or galvanized steel, and should not pose a reflectance hazard to area viewers. Other glare sources in nature (free water surfaces) have a higher glare effect than PV modules. Reflected light from standard PV modules surface is between 10 to 20 percent of the incident radiation (as low as free water surfaces), while galvanized steel (used in industrial roofs) is between 40 to 90 percent (Aztec 2014).

Furthermore, given the project areas distance from the Naval Air Facility El Centro of 6.0 miles to the northeast, the projects would not use materials that would reflect significant levels of glare or glint upwards in a manner that could affect flight operations. Based on these considerations, impacts related to glare or glint to aircraft is considered **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

4.1.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Topography within each of the project sites is relatively flat and primarily characterized by a level elevation. Therefore, no grading or significant land form modifications would be required during decommissioning activities upon site restoration in the future. Although the project sites would be visually disrupted in the short-term during decommissioning activities, because extensive grading is not required

and these activities would be temporary, the visual character of the project sites would not be substantially degraded in the short-term and related impacts would be **less than significant**.

Residual

Impacts related to glare and glint impacts to roadway travelers would be less than significant and no additional mitigation measures are required. Impacts related to substantial alteration of a scenic vista and damage to designated scenic corridor would be less than significant and no additional mitigation measures are required. Changes to visual character of the project area would be less than significant and would be transitioned back to their prior (pre-solar project) conditions following site decommissioning. Based on these conclusions, implementation of the projects would not result in residual significant unmitigable impacts to the visual character of the project area or add substantial amounts of light and glare.

4.1-20

4.2 AGRICULTURAL RESOURCES

This section provides an overview of existing agricultural resources within the project sites and identifies applicable federal, state, and local policies related to the conservation of agricultural lands (see Section 4.2.1). This includes a summary of the production outputs, soil resources and adjacent operations potentially affected by the projects. The impact assessment in Section 4.2.2 provides an evaluation of potential adverse effects to agricultural resources based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines in conjunction with actions proposed in Chapter 3, Project Description. Section 4.2.3 provides a discussion of residual impacts, if any. Environmental Management Associates prepared Land Evaluation Site Assessments (LESA) for the SEPV Dixieland East and West Solar Farm sites in April 2015, and these are included in Appendix C. The site reclamation plans for the sites are included in Appendix L.

No forestry resources are present within the project sites and, therefore, this section focuses on issues related to agricultural resources.

4.2.1 Environmental Setting

In 2013, Imperial County (County) was ranked tenth among the 58 counties in the State of California with respect to production of agricultural goods, earning \$1,945,759,000 (gross) for the State's economy (California Department of Food and Agriculture 2015). Vegetable and melon crops were the top commodities in Imperial County producing \$865,401,000 in the year 2013. Livestock and field crops were the next two largest commodities generating \$617,371,000 and \$471,461,000, respectively, for Imperial County (Imperial County Agricultural Commissioner 2013).

4.2.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

State

California Land Conservation Act

The Williamson Act (California Land Conservation Act, California Government Code, Section 51200 et seq.) is a statewide mechanism for the preservation of agricultural land and open space land. The Act provides a comprehensive method for local governments to protect farmland and open space by allowing land in agricultural use to be placed under contract (agricultural preserve) between a local government and a land owner.

Under the provisions of the Williamson Act (California Land Conservation Act 1965, Section 51200), landowners contract with the County to maintain agricultural or open space use of their lands in return for reduced property tax assessment. The contract is self-renewing and the landowner may notify the County at any time of intent to withdraw the land from its preserve status. Withdrawal involves a ten-year period of tax adjustment to full market value before protected open space can be converted to urban uses. Consequently, land under a Williamson Act Contract can be in either a renewal status or a nonrenewable status. Lands with a nonrenewable status indicate the farmer has withdrawn from the Williamson Act Contract and is waiting for a period of tax adjustment for the land to reach its full market value. Nonrenewable and cancellation lands are candidates for potential urbanization within a period of ten years.

The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a Farmland Security Zone (FSZ) contract, the Williamson Act

requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

On February 23, 2010, the Imperial County Board of Supervisors voted to not accept any new Williamson Act contracts and not to renew existing contracts, due to the elimination of the subvention funding from the state budget. The County reaffirmed this decision in a vote on October 12, 2010, and notices of nonrenewal were sent to landowners with Williamson Act contracts following that vote. The applicable deadlines for challenging the County's actions have expired, and therefore all Williamson Act contracts in Imperial County will terminate on or before December 31, 2018.

According to the 2011/2012 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource Protection, the project sites are not located on Williamson Act contracted land (California Department of Conservation 2012).

Farmland Security Zones

In August 1998, the Williamson Act's FSZ provisions were enacted with the passage of Senate Bill 1182 (Costa, Chapter 353, Statutes of 1998). This sub-program, dubbed the "Super Williamson Act," enables agricultural landowners to enter into contracts with the County for 20-year increments with an additional 35 percent tax benefit over and above the standard Williamson Act contract. The project sites are not located on Farmland Security Zone contracted land.

California Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC), under the Division of Land Resource Protection, has set up the Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the state's farmland to and from agricultural use. The map series identifies eight classifications and uses a minimum mapping unit size of ten acres. The program also produces a biannual report on the amount of land converted from agricultural to non-agricultural use. The program maintains an inventory of state agricultural land and updates its "Important Farmland Series Maps" every two years. Table 4.2-1 provides a summary of agricultural land within Imperial County converted to non-agricultural uses during the time frame from 2008 to 2010 (California Department of Conservation 2014).

According to the farmland maps prepared by the California Department of Conservation (2012), the project sites do not contain prime farmland or farmland of statewide importance. As shown in Figure 4.2-1, the project sites are primarily designated as Other Land. The northern edge of Dixieland East Solar Farm (DESF) and the northeastern corner of Dixieland West Solar Farm (DWSF) are designated as Farmland of Local Importance. The California Department of Conservation defines Other Land as, "Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. According to the Department of Conservation, Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland" (California Department of Conservation 2004).

Local

County of Imperial General Plan

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for new development as well as government actions and programs. Imperial County's Goals and Objectives are intended to serve as long-term principles and policy statements to guide agricultural use decision-making and uphold the community's ideals.

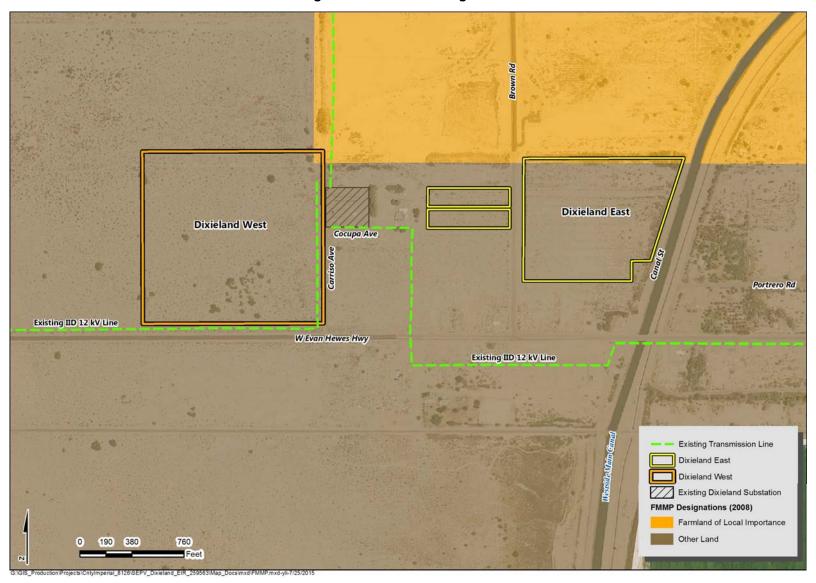


Figure 4.2-1. FMMP Designations

TABLE 4.2-1. IMPERIAL COUNTY CHANGE IN AGRICULTURAL LAND USE SUMMARY (2008-2010)

	Total Acreage Inventoried 2008 2010		2008-2010 Acreage Changes					
Land Use Category			Acres Lost (-)	Acres Gained (+)	Total Acreage Changed	Net Acreage Changed		
Prime Farmland Farmland of Statewide	195,589 311,048	194,137 307,221	1,865 4,579	414 753	2,279 5,332	-1,451 -3,826		
Importance Unique Farmland/Farmland of Local Importance	2,196 32,109	2,141 35,774	65 1,664	9 5,329	74 6,993	-56 3,665		
Important Farmland Subtotal	540,942	539,273	8,173	6,505	14,678	-1,668		
Grazing Land	0	0	0	0	0	0		
Agricultural Land Subtotal	540,942	539,273	8,173	6,505	14,678	-1,668		
Urban and Built-Up Land Other Land Water Area	27,709 458,829 1,029	28,485 460,001 749	83 338 293	859 1,510 13	942 1,848 306	776 1,172 -280		
Total Area Inventoried	1,028,509	1,028,508	8,887	8,887	17,774	0		

Source: DOC 2014

Agriculture has been the single most important economic activity in the County throughout its history. The County recognizes the area as one of the finest agricultural areas in the world due to several environmental and cultural factors including good soils, a year-round growing season, the availability of adequate water transported from the Colorado River, extensive areas committed to agricultural production, a gently sloping topography, and a climate that is well-suited for growing crops and raising livestock. The Agricultural Element in the County General Plan demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production, while allowing logical, organized growth of urban areas (County of Imperial, as amended through 2008).

The County's Agricultural Element identifies several Implementation Programs and Policies for the preservation of agricultural resources. The Agricultural Element recognizes that the County can and should take additional steps to provide further protection for agricultural operations and at the same time provide for logical, organized growth of urban areas. The County must be specific and consistent about which lands will be maintained for the production of food and fiber and for support of the County's economic base. The County's strategy and overall framework for maintaining agriculture includes the following policy directed at the preservation of Important Farmland:

The overall economy of the County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in the County is considered as Important Farmland, as defined by federal and state agencies, and should be reserved for agricultural uses. Agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. All existing agricultural land will be preserved for irrigation agriculture, livestock production, aquaculture, and other agriculture-related uses except for non-agricultural uses identified in this General Plan or in previously adopted City General Plans.

The following program is provided in the Agricultural Element:

No agricultural land designated except as provided in Exhibit C [of the Agricultural Element] shall be removed from the Agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process. The Board (or Planning Commission) shall be required to prepare and make specific findings and circulate same for

60 days (30 days for parcels considered under Exhibit C of this [Agricultural] element) before granting final approval of any proposal, which removes land from the Agriculture category.

Also, the following policy addresses Development Patterns and Locations on Agricultural Land:

"Leapfrogging" or "checkerboard" patterns of development have intensified recently and result in significant impacts to the efficient and economic production of adjacent agricultural land. It is a policy of the County that leapfrogging will not be allowed in the future. All new non-agricultural development will be confined to areas identified in this plan for such purposes or in Cities' adopted Spheres of Influence, where new development must adjoin existing urban uses. Non-agricultural residential, commercial, or industrial uses will only be permitted if they adjoin at least one side of an existing urban use, and only if they do not significantly impact the ability to economically and conveniently farm adjacent agricultural land.

Agricultural Element Programs that address "leapfrogging" or "checkerboard" development include:

All non-agricultural uses in any land use category shall be analyzed during the subdivision, zoning, and environmental impact review process for their potential impact on the movement of agricultural equipment and products on roads located in the Agriculture category, and for other existing agricultural conditions which might impact the projects, such as noise, dust, or odors.

The Planning and Development Services Department shall review all proposed development projects to assure that any new residential or non-agricultural commercial uses located on agriculturally zoned land, except land designated as a Specific Plan Area, be adjoined on at least one entire property line to an area of existing urban uses. Developments that do not meet this criteria should not be approved.

Table 4.2-2 provides a General Plan goal and policy consistency evaluation for the projects.

County of Imperial Right to Farm Ordinance No. 1031

The purpose and intent of the County's Right to Farm Ordinance is to reduce the loss to the County of its agricultural resources by clarifying the circumstances under which agricultural operations may be considered a nuisance. The ordinance includes a requirement for disclosure of agricultural operations as part of real estate transactions that may occur in the vicinity of agricultural operations.

4.2.1.2 Existing Conditions

Agricultural Cropping Patterns

The projects are located on privately owned, primarily undeveloped vacant land. The surrounding land uses consists primarily of vacant land. The sites are located adjacent to the Westside Main canal (DESF) and are in the vicinity of the existing Dixieland substation. A large area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF.

TABLE 4.2-2. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN AGRICULTURAL POLICIES

	Consistency with General	
General Plan Policies	Plan	Analysis
Goal 1. All Important Farmland, including the categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance, as defined by federal and state agencies, should be reserved for agricultural uses.	Consistent	The project sites do not contain Prime Farmland or Farmland of Statewide Importance. Therefore, the proposed project would not convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. The northern edge of DESF and the northeastern corner of DWSF are designated as Farmland of Local Importance. The projects would temporarily convert Farmland of Local Importance. However, as part of the projects, the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the projects are decommissioned at the end of their life spans. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the sites, as well as restoration of the site to its pre-project condition. Therefore, the proposed projects would not permanently convert Farmland of Local Importance to non-agricultural uses.
Goal 2. Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of nonagricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence area.	Consistent	The project sites are designated for agriculture land use in the County General Plan. The projects would include development of solar facilities on privately owned, undeveloped, but partially disturbed land. Land immediately adjacent to the project sites is not currently under agricultural production. The nearest area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. This development would not include a residential component that would induce urbanization adjacent to the projects. Furthermore, with the approval of a Conditional Use Permit the projects would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.
Objective 2.1. Do not allow the placement of new non-agricultural land uses such that agricultural fields or parcels become isolated or more difficult to economically and conveniently farm.	Consistent	Land immediately adjacent to the project sites is not currently under agricultural production. The nearest area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. The Westside Main Canal provides a buffer between the proposed solar facilities and the existing cultivated agricultural croplands located on the east side of the Canal. Neither construction nor operation of the solar facilities would not make it difficult to economically or conveniently farm.
Objective 2.2. Encourage the infilling of development in urban areas as an alternative to expanding urban boundaries.	Consistent	The projects consist of the construction and operation of a solar facility. The projects are an industrial use and would not induce growth in the area nor result in the expansion of urban boundaries.
Objective 2.4. Discourage the parcelization of large holdings.	Consistent	See response to Objective 2.3 above.

	Consistency	
General Plan Policies	with General Plan	Analysis
Objective 2.6. Discourage the development of new residential or other non-agricultural areas outside of city "sphere of influence" unless designated for non-agricultural use in the County General Plan, or for necessary public facilities.	Consistent	The projects are an allowable use within the agricultural zones of the property subject to approval of a Conditional Use Permit. Therefore, the projects are consistent with the agriculture land use designation of the General Plan.
Goal 3. Limit the introduction of conflicting uses into farming areas, including residential development of existing parcels which may create the potential for conflict with continued agricultural use of adjacent property.	Consistent	With approval of a Conditional Use Permit, the projects would be an allowable use in agricultural zones. Additionally, the projects do not include the development of housing.
Objective 3.2. Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).	Consistent	The Imperial County Right-to-Farm Ordinance would be enforced.
Objective 3.3. Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).	Consistent	The provisions of the State nuisance law would be incorporated into the projects.
Objective 3.5. As a general rule, utilize transitional land uses around urban areas as buffers from agricultural uses. Such buffers may include rural residential uses, industrial uses, recreational areas, roads, canals, and open space areas.	Consistent	Land immediately adjacent to the project sites is not currently under agricultural production. The nearest area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. The Westside Main Canal provides a buffer between the proposed solar facilities and the existing cultivated agricultural croplands located on the east side of the Canal.
Objective 3.6. Where a development permit is sought adjacent to agricultural land use, protect agricultural operations by requiring appropriate buffer zones between the agricultural land and new developments, and then keep these zones aesthetically pleasing and free of pests by cleaning them of all garbage and noxious vegetation. Vegetation for the purpose of dust control shall be planted and maintained in an attractive manner. The buffer shall occur on the parcel for which the development permit is sought and shall favor protection of the maximum amount of farmland.	Consistent	The project applicant would implement a noxious weed control plan during the construction and operational phases of the projects. The burden of maintaining public roads falls upon the County of Imperial.

Source: County of Imperial General Plan, as amended through 2008.

Farmland Quality

To assess the quality of the project sites for agricultural cultivation, the LESA model¹ developed by the DOC was utilized for the DESF and DWSF. The LESA model is an approach used to rate the relative quality of land resources based upon six specific measureable features. Two land evaluation factors are

LESA is a point-based approach for rating the relative importance of agricultural land resources based upon specific measurable features. LESA evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. The project score becomes the basis for making a determination of a project's potential significance.



SEPV Dixieland East and West Solar Farm Projects

based upon measures of soil resource quality. Four site assessment factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. Based on the results for the LESA analysis, the project sites are not classified as Important Farmland. The results of the LESA model for DESF and DWSF are provided in Appendix C.

Results obtained from the LESA model closely correlate with Important Farmland Maps produced by the DOC's FMMP. The project sites do not contain prime farmland or farmland of statewide importance. As shown in Figure 4.2-1, the project sites are primarily designated as Other Land. The northern edge of DESF and the northeastern corner of DWSF are designated as Farmland of Local Importance. "Other Land" is defined as land not included in any other mapping category with common examples including low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and, water bodies smaller than 40 acres. According to the Department of Conservation, Farmland of Local Importance is either currently producing, or has the capability of production, but does not meet the criteria of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland" (California Department of Conservation 2004).

Soil Resources

The suitability of the local soil resource plays a crucial part in the determination of a plot's farmland designation. The land capability classification (LCC) system developed by the USDA, Natural Resources Conservation Service (NRCS), rates each of the soil types within the County in relation to its limitations for crop management. A soil rated as Class I is considered to have few limitations whereas a soil rated as Class VIII could have severe limitations that, in many circumstances, would preclude it from commercial crop production. According to the LESAs prepared for the projects, the project sites are primarily comprised of soil types with an LCC rating of VII.

Soils are also rated by the Storie Index, a numerical system expressing the relative degree of suitability, or value of a soil for general intensive agriculture use. The index considers a soil's color and texture, the depth of nutrients, presence of stones, and slope, all of which relate to the adequacy of a soil type for use in crop cultivation. The rating does not take into account other factors, such as the availability of water for irrigation, the climate, and the distance from markets. Values of the index range from 1 to 100 and are divided into six grades, with an index of 100 and a grade of 1 being the most suitable farmland. According to the LESAs prepared for the projects, the Storie Index for soil resources within the project sites is generally classified as Grade 3 (Fair) with isolated areas classified as Grade 1 (Excellent) and Grade 2 (Good).

4.2.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to agricultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.2.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to agricultural resources are considered significant if any of the following occur:

- Convert economically viable Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act contract in an area in which continued agriculture is economically viable;
- Involve other changes in the existing environment that, due to their location or nature, could individually or cumulatively result in loss of economically viable Farmland, to non-agricultural uses; or
- Impair agricultural productivity of the project site or use of neighboring areas.

4.2.2.2 Methodology

This analysis evaluates the potential for the projects, as described in Chapter 3, Project Description, to adversely impact agricultural resources within the project sites based on the applied significance criteria as identified above. This analysis utilizes the LESA model in conjunction with other readily available information sources in assessing impacts on agriculture and farmland. As indicated in the environmental setting, two LESA models have been prepared that address DESF and DWSF. These reports are included as Appendix C. The analysis prepared for this Environmental Impact Report (EIR) also relied on NRCS soil survey data, Important Farmland maps for Imperial County prepared by the State, and Williamson Act contract maps prepared by Imperial County. A combination of these sources was used to determine the agricultural significance of the lands in the project sites.

Additionally, potential conflicts with existing agricultural zoning, incompatibility with existing Williamson Act contracts, or other changes resulting from the implementation of the projects, which could indirectly remove Important Farmland from agricultural production or reduce agricultural productivity were considered. Sources used in this evaluation included, but were not limited to, the Imperial County General Plan, as amended through 2008, and zoning ordinance. Additional background information on land uses was obtained through field review and consultation with appropriate agencies. Conceptual site plans for the projects were also used to evaluate potential impacts. These conceptual exhibits are provided in Figures 3-5 and 3-7.

4.2.2.3 Impact Analysis

Impact 4.2-1 Conversion of Important Farmlands to Non-Agricultural Use.

Implementation of the projects would not result in the conversion of economically viable Important Farmland, including Prime Farmland and Farmland of Statewide Importance, to non-agricultural uses.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites do not contain prime farmland or farmland of statewide importance, and these sites have not been irrigated for purposes of agricultural production for over 30 years. As shown in Figure 4.2-1, the project sites are primarily designated as Other Land. The northern edge of DESF and the northeastern corner of DWSF are designated as Farmland of Local Importance. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a).

The LESA assessed the agricultural viability of the land and soils to determine the potential impact of the conversion of agricultural resources to non-agricultural uses. Based on the LESA's scoring methodology, a site scoring of 60 points or higher is typically considered "significant." A site scoring of 0 to 39 points is not considered significant. The LESA scoring for the site locations analyzed in conjunction with the projects are provided in Table 4.2-3. As shown, the LESA scores for the projects are below the numerical significance threshold of 39 points. Therefore, the project sites are not considered to have significant agricultural resources. Therefore, development of the DESF and DWSF sites would result in **no impact** to important farmlands.

As part of the projects, the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the projects are decommissioned at the end of their life spans. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the sites, as well as restoration of the site to its pre-project condition. The County is responsible for approving the reclamation plan for each project and confirming that financial assurances for each of the projects are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUPs.

TABLE 4.2-3. LESA SCORING FOR THE PROJECT SITES

Project	LESA Score	LESA Score LE Factors ¹		Significant?
DESF	16.56	16.56	0	No
DWSF	14.69	14.69	0	No

Source: Environmental Management Associates 2015.

Notes: 1. Land evaluation (LE) includes soil LCC and Storie Index.

2. Site assessment (SA) factors include water availability, project size, and Surrounding Agricultural Land & Surrounding Protected Resource Land.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.2-2

Result in the Non-Renewal or Cancellation of an Active Williamson Act Contract.

The projects would not conflict with the existing agricultural zoning for the project sites or with the provisions of an existing Williamson Act contract.

Dixieland East Solar Farm and Dixieland West Solar Farm

Williamson Act. According to the 2011/2012 Imperial County Williamson Act Map produced by the California Department of Conservation's Division of Land Resource Protection, the project sites are not located on Williamson Act contracted land (California Department of Conservation, 2012). Therefore, the projects would not conflict with a Williamson Act contract and **no impact** would occur.

Agricultural Zoning. Pursuant to the County General Plan, the project sites are located on land designated for agricultural uses. The solar energy facility components of the projects would be constructed on lands currently zoned A-2 (General Agriculture). Solar energy plants are allowed uses within these zones, subject to the approval of a CUP. Upon approval of a CUP, the projects' use would be consistent with the Imperial County Land Use Ordinance and thus is also consistent with the General Plan land use designation of the site. Additionally, the operation of the solar generating facilities is not expected to inhibit or adversely affect adjacent agricultural operations through the placement of sensitive lands uses, generation of excessive dust or shading, or place additional development pressures on adjacent areas. Based on these considerations, the impact is considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.2-3

Result in Other Effects that could Contribute to the Conversion of Active Farmlands to Non-Agricultural Use.

The projects could result in direct and indirect impacts to adjacent agricultural lands that could indirectly contribute to conversion of active farmland to non-agricultural use.

Dixieland East Solar Farm and Dixieland West Solar Farm

The Agricultural Element of the County's General Plan serves as the primary policy statement for implementing development policies for agricultural land use in Imperial County. The goals, objectives, implementation programs, and policies found in the Agricultural Element provide direction for private development as well as government actions and programs. A summary of the relevant Agricultural goals and objectives and the projects' consistency with applicable goals and objectives is summarized in Table 4.2-2. As provided, the projects are generally consistent with certain Agricultural Element Goals and Objectives of the County General Plan, but mitigation is required for the projects.

Per County policy, agricultural land may be converted to non-agricultural uses only where a clear and immediate need can be demonstrated, such as requirements for urban housing, commercial facilities, or employment opportunities. Further, no agricultural land designated except as provided in Exhibit C shall be removed from the agriculture category except where needed for use by a public agency, for geothermal purposes, where a mapping error may have occurred, or where a clear long-term economic benefit to the County can be demonstrated through the planning and environmental review process. As discussed under Impact 4.2-1, the project sites do not contain prime farmland or farmland of statewide Furthermore, based on the LESA's scoring methodology, the project sites are not considered to have significant agricultural resources. As part of the projects, the project applicant or its successor in interest will be responsible for implementing a reclamation plan when the projects are decommissioned at the end of their life spans. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the sites, as well as restoration of the site to its pre-project condition. The County is responsible for approving the reclamation plan for each project and confirming that financial assurances for each of the projects are in conformance with Imperial County ordinances prior to the issuance of any building permits. This shall be made a condition of approval and included in the CUPs.

The nature of the projects warrants that they be located adjacent to existing electrical transmission infrastructure. The interconnection for the proposed projects will occur at the 12 kV side of the Imperial Irrigation District (IID) Dixieland Substation, located between the DESF and DWSF project sites. Land immediately adjacent to the project sites is not currently under agricultural production. The nearest area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. The Westside Main Canal provides a buffer between the proposed solar facilities and the existing cultivated agricultural croplands located on the east side of the Canal. With the approval of a Conditional Use Permit, the projects would be consistent with the County's Land Use Ordinance. Consistency with the Land Use Ordinance implies consistency with the General Plan land use designation.

The projects would not directly impact the movement of agricultural equipment on roads located within the agriculture category and access to existing agriculture-serving roads would not be precluded or hindered by the projects. No modifications to roadways are proposed in the project sites that would otherwise affect other agricultural operations in the area. Furthermore, existing nuisance issues such as noise, dust, and odors from existing agricultural use would not impact the projects given the general lack of associated sensitive uses (e.g. residences). Likewise, with mitigation measures proposed in other resource sections (e.g. air quality, noise, etc.) project-related activities would not adversely affect adjacent agricultural operations. Additionally, the projects would not develop infrastructure that would attract or encourage new development of adjacent farmlands. Further, the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031) and the State nuisance law (California Code Sub-Section 3482) would continue to be enforced. Based on these considerations, the projects are not expected to adversely impact adjacent landowners' abilities to economically and conveniently farm adjacent agricultural land and the impact is considered **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.2-4

Adversely Affect Agricultural Productivity.

The projects could impair the agricultural productivity of the project sites or use of neighboring areas for agricultural use.

Dixieland East Solar Farm and Dixieland West Solar Farm

As previously noted in the setting discussion, soil resources within the project sites have a LCC rating of VII. Based on this classification, one may conclude that on-site soil resources rank relatively low in terms of their suitability for agricultural cultivation (e.g., effective rooting depth, soil texture, nutrient holding

4.2-11

capacity, etc.). With the implementation of the projects, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated stockpiling operations. Improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant-available nitrogen, and depletion of soil biota communities (e.g., Rhizobium or Frankia). However, as indicated in Chapter 3, the project applicant will be required to implement site reclamation plans for each of the project sites. The reclamation plan includes restoration of the site to its pre-project condition.

There is the potential that weeds or other pests may occur within the solar fields if these areas are not properly maintained and managed to control weeds and pests. This is considered a **significant impact**. Implementation of Mitigation Measure AG-1 would reduce this impact to a level **less than significant**.

Mitigation Measure(s)

The following mitigation measures are required for the DESF and DWSF.

- AG-1 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Weed and Pest Control Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The plan shall provide the following:
 - 1. Monitoring, preventative, and management strategies for weed and pest control during construction activities at any portion of the project (e.g., transmission line);
 - 2. Control and management of weeds and pests in areas temporarily disturbed during construction where native seed will aid in site revegetation as follows;
 - Monitor for all pests including insects, vertebrates, weeds, and pathogens.
 Promptly control or eradicate pests when found, or when notified by the
 Agricultural Commissioner's office that a pest problem is present on the
 project site;
 - All treatments must be performed by a qualified applicator or a licensed pest control operator;
 - "Control" means to reduce the population of common pests below economically damaging levels, and includes attempts to exclude pests before infestation, and effective control methods after infestation. Effective control methods may include physical/mechanical removal, bio control, cultural control, or chemical treatments;
 - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species such as A- and Q-rated pest species as defined by the California Department of Food and Agriculture (CDFA). Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or CDFA;
 - Obey all pesticide use laws, regulations, and permit conditions;
 - Access shall be allowed by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties;
 - All project employees that handle pest control issues shall be appropriately trained and certified, and all required records shall be maintained and made available for inspection. All required permits shall be maintained current;
 - Records of pests found and controlled shall be maintained and available for review, or submitted to the Agricultural Commissioner's office on a quarterly basis;

- 3. A long-term strategy for weed and pest control and management during the operation of the proposed project. Such strategies may include, but are not limited to:
 - a. Use of specific types of herbicides and pesticides on a scheduled basis.
- 4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on adjacent agricultural lands.

Significance After Mitigation

The project applicant would be required to adhere to the terms of the comprehensive reclamation plan that would restore the project sites to their existing conditions following decommissioning of the projects (after their use for solar generation activities). In addition, the proposed projects would be required to implement a weed and pest control plan per Mitigation Measure AG-1 Compliance with these measures would reduce this impact to a level **less than significant**.

4.2.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

As previously noted in the setting discussion, soil resources within the project sites have a LCC rating of VII. Based on this classification, one may conclude that on-site soil resources rank relatively low in terms of their suitability for agricultural cultivation (e.g., effective rooting depth, soil texture, nutrient holding capacity, etc.). With the implementation of the projects, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated stockpiling operations. Improper soil stockpiling and management of the stockpiles could result in increased decomposition of soil organic materials, increased leaching of plant-available nitrogen, and depletion of soil biota communities (e.g., rhizobium or frankia). However, as indicated in Chapter 3, the project applicant shall adhere to the terms of the site reclamation plan that has been submitted to Imperial County to return the property to its pre-project condition. In any land restoration project, it is necessary to minimize disruption to topsoil or stockpiled topsoil for later use during restoration following project decommissioning. With implementation of the site reclamation plans for each of the project sites, this impact is considered **less than significant**.

Residual

The project sites do not contain prime farmland or farmland of statewide importance. Therefore, the proposed project would not convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. Operation of the projects, subject to the approval of a CUP, would generally be consistent with applicable federal, state, regional, and local plans and policies. Following the proposed use (e.g., solar facilities), the projects would be decommissioned and project sites restored to pre-project conditions. Based on these circumstances, the projects would not result in any residual significant and unmitigable impacts to agricultural resources.

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4.3 AIR QUALITY

This section provides an overview of existing air quality within the project area and identifies applicable federal, state, and local policies related to air quality. The impact assessment provides an evaluation of potential adverse effects to air quality based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines and the Imperial County Air Pollution Control District's (ICAPCD) Air Quality Handbook in conjunction with actions proposed in Chapter 3.0, Project Description. OB-1 Air Analyses prepared an Air Quality/ Greenhouse Gas Report in August 2015 for the SEPV Dixieland East and West Solar Farm Projects. This report is included in Appendix D of this EIR.

4.3.1 Environmental Setting

Regional Setting

The project area is located in the Salton Sea Air Basin (SSAB) under the jurisdiction of the ICAPCD. The SSAB, which contains part of Riverside County and all of Imperial County, is governed largely by the large-scale sinking and warming of air within the semi-permanent subtropical high-pressure center over the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms, except in winter when the high is weakest and farthest south. When the fringes of mid-latitude storms pass through the Imperial Valley in winter, the coastal mountains create a strong "rainshadow" effect that makes Imperial Valley the second driest location in the United States. The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms.

The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (° F) down to a winter morning minimum of 38° F. The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences significant rainfall an average of only four times per year (>0.10 inches in 24 hours). The local area usually has three days of rain in winter and one thunderstorm day in August. The annual rainfall in this region is less than three inches per year.

Winds in the area are driven by a complex pattern of local, regional and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer, intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the emissions that emanate from the Mexicali, Mexico area due to the limited air pollution controls on those emission sources. Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small particulate matter through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. The Imperial County experiences unhealthful air quality from photochemical smog and from dust due to extensive surface disturbance and the very arid climate.

Major Air Pollutants

Criteria Pollutants

Air quality is defined by ambient air concentrations of specific pollutants determined by the United States Environmental Protection Agency (U.S. EPA) to be of concern with respect to the health and welfare of the general public. Seven major pollutants of concern, called criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter less than or

equal to 10 microns in diameter (PM_{10}), fine particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). Table 4.3-1 describes the health effect of these criteria pollutants.

Table 4.3-1. Health Effects of Criteria Air Pollutants

Air Pollutant	Health Effects			
Carbon Monoxide (CO)	Reduces ability of blood to bring oxygen to body cells and tissues; cells and tissues need oxygen to work. CO may be particularly hazardous to people who have heart or circulatory (blood vessel) problems and people who have damaged lungs or breathing passages.			
Sulfur Dioxide (SO ₂)	Breathing problems; may cause permanent damage to lungs.			
Nitrogen Dioxide (NO ₂)	Lung damage, illnesses of breathing passages and lungs (respiratory system).			
Ozone (O ₃)	Breathing problems, reduced lung function, asthma, irritates eyes, stuffy nose, reduced resistance to colds or other infections, and may speed up aging of lung tissue.			
Particulate Matter (PM ₁₀ and PM _{2.5})	Nose and throat irritation, lung damage, bronchitis, early death.			
Lead (Pb)	Brain and other nervous system damage; children are at special risk. Some lead- containing chemicals cause cancer in animals. Lead causes digestive and other health problems.			

Source: http://www.epa.gov/oaqps001/urbanair/

Toxic Air Contaminants

Toxic air contaminants (TACs) are substances that have the potential to be emitted into the ambient air that have been determined to present some level of acute or chronic health risk (cancer or non-cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. There are almost 200 compounds that have been designated as TACs in California. The ten TACs posing the greatest known health risk in California, based primarily on ambient air quality data, are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, formaldehyde, methylene chloride, para-dichlorobenzene, perchloroethylene, and diesel particulate matter (DPM).

4.3.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Federal Clean Air Act

The Federal Clean Air Act (CAA) requires areas with unhealthy levels of criteria pollutants to develop State Implementation Plans (SIPs) that describe how and when they will attain the National Ambient Air Quality Standards (NAAQS). SIPs are a compilation of state and local regulations, such as new and previously submitted plans and programs, and district rules that a state uses to achieve healthy air quality under the CAA. State and local agencies must involve the public in the adoption process before SIP elements are submitted to the U.S. EPA for approval or disapproval. The U.S. EPA must provide an opportunity for public comment before taking action on each SIP submittal. If the SIP is not acceptable to the U.S. EPA, the U.S. EPA can take over enforcing the CAA in that state (EPA, 2006).

The 1990 amendments to the Federal CAA set new deadlines for attainment based on the severity of the pollution problem and launched a comprehensive planning process for attaining the NAAQS. The promulgation of the new national 8-hour O_3 standard and $PM_{2.5}$ standards in 1997 resulted in additional statewide air quality planning efforts. In response to new federal regulations, future SIPs will also address ways to improve visibility in national parks and wilderness areas.

The consistency of future projects with the SIP would be assessed through the land use and growth assumptions that are incorporated into the air quality planning document. If a project is consistent with the applicable General Plan of the jurisdiction where it is located, then the project presumably has been anticipated within the regional air quality planning process. Such consistency would ensure that the project would not have an adverse regional air quality impact.

National Ambient Air Quality

Ambient air quality refers to the atmospheric concentration of a specific compound (amount of pollutants in a specified volume of air) that occurs at a particular geographic location. The U.S. EPA establishes ambient air quality standards for criteria pollutants (NAAQS). The ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Emission considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million [ppm] by volume). Table 4.3-2 provides the federal and state ambient air quality standards.

TABLE 4.3-2. AMBIENT AIR QUALITY STANDARDS

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone	1 hour	0.09 ppm	
	8 hour	0.070 ppm	0.075 ppm
Respirable particulate matter (PM ₁₀)	24 hour	50 μg/m³	150 μg/m³
	Mean	20 μg/m³	—
Fine particulate matter (PM _{2.5})	24 hour	—	35 μg/m³
	Mean	12 µg/m³	12.0 μg/m³
Carbon monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen dioxide (NO ₂)	1 hour	0.18 ppm	100 ppb
	Mean	0.030 ppm	0.053 ppm
Sulfur dioxide (SO ₂)	1 hour	0.25 ppm	75 ppb
	24 hour	0.04 ppm	—
Lead	30-day	1.5 μg/m³	
	Rolling 3-month	—	0.15 μg/m³
Sulfates	24 hour	25 μg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm	
Vinyl chloride	24 hour	0.01 ppm	No Federal
Visibility-reducing particles	8 hour	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more due to particles when relative humidity is less than 70%.	Standard

Abbreviations:

ppm = parts per million µg/m³ = micrograms per cubic meter ppb = parts per billion Mean = Annual Arithmetic Mean 30-day = 30-day average

Source: California Air Resources Board. Ambient Air Quality Standards (6/4/13). http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

State

California Clean Air Act

The California Clean Air Act (CCAA) was enacted on September 30, 1988, and became effective January 1, 1989. The purpose of the CCAA is to achieve the more stringent health-based state clean air standards at the earliest practicable date. The state standards are more stringent than the federal air quality standards. Similar to the federal Clean Air Act, the CCAA also classifies areas according to pollution levels. The California Air Resources Board (CARB) establishes the state ambient air quality standards (CAAQS). Table 4.3-2 identifies the CAAQS. The CCAA requires attainment of the standards at the earliest practicable date. Further, district-wide air emissions must be reduced at least five percent per year (averaged over three years) for each non-attainment pollutant or its precursors. A district may achieve a smaller average reduction if the district can demonstrate that, despite inclusion of every feasible measure in its air quality plan, it is unable to achieve the 5% annual reduction in emissions. On June 20, 2002, the CARB approved revisions to the PM₁₀ annual average standard, and established an annual average standard for PM_{2.5}.

Regional

Imperial County Air Pollution Control District

The ICAPCD is responsible for regulating stationary sources of air emissions in Imperial County. Stationary sources that have the potential to emit air pollutants into the ambient air are subject to the Rules and Regulations adopted by the ICAPCD. Monitoring of ambient air quality in Imperial County began in 1976. Since that time, monitoring has been performed by the ICAPCD, CARB, and by private industry. There are six monitoring sites in Imperial County from Niland to Calexico.

Ozone Air Quality Management Plan. Due to Imperial County's "moderate" nonattainment status for 1997 federal 8-hour ozone standards, the ICAPCD was required to develop an 8-hour Attainment Plan for Ozone. On December 3, 2009, the U.S. EPA made a final determination that the Imperial County attained the 1997 8-Hour NAAQS for ozone. As long as Imperial County continues to attain the 1997 8-hour ozone standard, the state does not have to submit an attainment demonstration, a reasonable further progress plan, contingency measure and other planning requirements. Because this determination does not constitute a re-designation to attainment under the CAA Section 107(d)(3), the designation status will remain "moderate" nonattainment for the 1997 8-hour ozone standard. However, the ICAPCD is required to submit a Modified Air Quality Management Plan (AQMP) to the U.S. EPA for approval. The final "Modified" 2009 8-hour Ozone Air Quality Management Plan was adopted by ICAPCD on July 13, 2010. On November 18, 2010, the CARB approved the Imperial County 8-Hour Ozone Air Quality Management Plan.

Particulate Matter State Implementation Plan. Imperial Valley is classified as nonattainment for federal and state PM_{10} standards. As a result, the ICAPCD was required to develop a PM_{10} Attainment Plan. The final plan was adopted by ICAPCD on August 11, 2009.

ICAPCD Rules and Regulations

The ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions of hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA.

Rule 310 – Operational Development Fee. The purpose of this rule is to provide the ICAPCD with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects throughout the County of Imperial and incorporated cities. All project proponents have the option to either provide: off-site mitigation, pay the operational development fee, or do a combination of both. This rule will assist the ICAPCD in attaining the State and federal ambient air quality standards for PM_{10} and O_3 .

Rule 403 - General Limitations on the Discharge of Air Contaminants. Rule 403 sets forth limitations on emissions of pollutants, including particulate matter, from individual sources.

Rule 407 - Nuisance. Rule 407 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Regulation VIII – Fugitive Dust Rules. Regulation VIII sets forth rules regarding the control of fugitive dust, including fugitive dust from construction activities. The regulation requires implementation of fugitive dust control measures to reduce emissions from earthmoving, unpaved roads, handling of bulk materials, and control of track-out/carry-out dust from active construction sites. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area;
- Application of water or chemical stabilizers to disturbed soils;
- · Construction and maintenance of wind barriers; and
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of size. However, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the Air District is required 10 days prior to the commencement of any construction activity. Furthermore, any use of engine(s) and/or generator(s) of 50 horsepower or greater may require a permit through the ICAPCD.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization for Los Angeles, Ventura, Orange, San Bernardino, Riverside and Imperial Counties. CEQA requires that regional agencies like SCAG review projects and plans throughout its jurisdiction. SCAG, as the region's "Clearinghouse", collects information on projects of varying size and scope to provide a central point to monitor regional activity. SCAG has the responsibility of reviewing dozens of projects, plans, and programs every month. Projects and plans that are regionally significant must demonstrate to SCAG their consistency with a range of adopted regional plans and policies. The applicable SCAG goal for this analysis is the Regional Transportation Plan (RTP) Goal 5: Protect the environment, improve air quality and promote energy efficiency.

Imperial County General Plan

The Imperial County General Plan serves as the overall guiding policy for the county. The Conservation and Open Space Element includes objectives for helping the County achieve the goal of improving and maintaining the quality of air in the region. The Imperial County Board of Supervisors ultimately determines consistency with the General Plan. The following objectives are applicable to the projects:

- **Objective 9.1:** Ensure that all facilities shall comply with current federal and state requirements for attainment of air quality objectives.
- **Objective 9.2:** Cooperate with all federal and state agencies in the effort to attain air quality objectives.

As discussed in greater detail below, the proposed projects comply with these objectives through implementation of mitigation measures to reduce emissions of criteria pollutants to below a level of significance.

4.3.1.2 Existing Conditions

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-Hour ozone, PM_{10} , and $PM_{2.5}$. Imperial County is classified as a "serious" non-attainment area for PM_{10} for the NAAQS and non-attainment for $PM_{2.5}$ for the urban areas of Imperial County.

Air pollutants transported into the SSAB from the adjacent South Coast Air Basin (Los Angeles, San Bernardino County, Orange County, and Riverside County) and from Mexicali, Mexico substantially contribute to the non-attainment conditions in the SSAB. The closest air quality monitoring station to the project sites is the El Centro-9th station within the City of El Centro (150 9th Street, El Centro, CA 92243). This monitoring station measures PM_{10} , $PM_{2.5}$, CO, and NO_2 Table 4.3-3 provides a summary of background air quality data representative of the area from 2009 to 2014. As shown, the general air quality problems of the basin exceed the State and federal ozone standards and State PM_{10} standard in all six years. The Federal PM_{10} stand was only exceeded in the year 2009 and 2011. The State or federal CO standards were not exceeded and the CO monitor was removed after the 2012 year. This station exceeded the NO_2 federal standard in three of the six years.

TABLE 4.3-3. AMBIENT AIR QUALITY MONITORING SUMMARY FOR EL CENTRO-9TH STATION

Air Pollutant	Monitoring Year					
Ozone	2009	2010	2011	2012	2013	2014
Max 1 Hour (ppm) Days > CAAQS (0.09 ppm)	0.111 9	0.122 3	0.103 5	0.111 9	0.110 7	0.101 2
Max 8 Hour (ppm) Days > NAAQS (0.075 ppm) Days > CAAQS (0.070 ppm)	0.085 11 30	0.082 10 29	0.084 12 21	0.091 14 26	0.088 11 23	0.080 5 13
Inhalable Particulate Matter (PM ₁₀)	2009	2010	2011	2012	2013	2014
Max Daily California Measurement Days > NAAQS (150 μg/m³) Days > CAAQS (50 μg/m³)	233.7 2 17	70.2 0 5	80.3 0 9	72.1 0 6	114.7 0 10	118.9 0 15
Fine Particulate Matter (PM _{2.5})	2009	2010	2011	2012	2013	2014
Max Daily National Measurement Days > NAAQS (35 μg/m³)	37.7 1	19.9 0	54.4 2	26.4 0	30.0 0	27.5 0
Carbon Monoxide (CO)	2009	2010	2011	2012	2013	2014
Max 8 Hour (ppm) Days > NAAQS (9 ppm) Days > CAAQS (9.0 ppm)	3.20 0 0	5.61 0 0	9.01 0 0	3.64 0 0	N/A	N/A
Nitrogen Dioxide (NO ₂)	2009	2010	2011	2012	2013	2014
Max Hourly (ppb) Days > NAAQS (100 ppb) Days > CAAQS (0.18 ppm)	121.6 1 0	140.5 1 0	117.4 1 0	72.0 0 0	53.0 0 0	59.3 0 0

Abbreviations:

> = exceed

ppm = parts per million

CAAQS = California Ambient Air Quality Standard

N/A = not available $\mu g/m^3$ = micrograms per cubic meter NAAQS = National Ambient Air Quality Standard

Sensitive Receptors

High concentrations of air pollutants pose health hazards for the general population, but particularly for the young, the elderly, and the sick. Typical health problems attributed to smog include respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort. Certain land uses are considered to be more sensitive to the effects of air pollution. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered particularly sensitive to air pollutants.

Residential land uses are also generally more sensitive to noise than commercial and industrial land uses. Sensitive residential uses adjacent to the project area (within approximately 1,500 feet) are shown on Figure 4.3-1, and include the following:

- DESF The nearest residence (a mobile home) is adjacent to the DESF site to the east, 175 feet
 from the project boundary where construction equipment would be used. Eight more residences
 (four houses and four mobile homes) are located east of the project across the Westside Main
 Canal with the closest construction noise approximately 350 feet from the nearest residence.
- DWSF South of the project are two rural residences, with the nearest located approximately 350 feet from the project. The Imperial Lakes Water Ski Community is located west of DWSF. This development includes 20 residences (mobile homes). The eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. No residences are located immediately to the north.

4.3.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to air quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.3.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to air quality are considered significant if any of the following occur:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

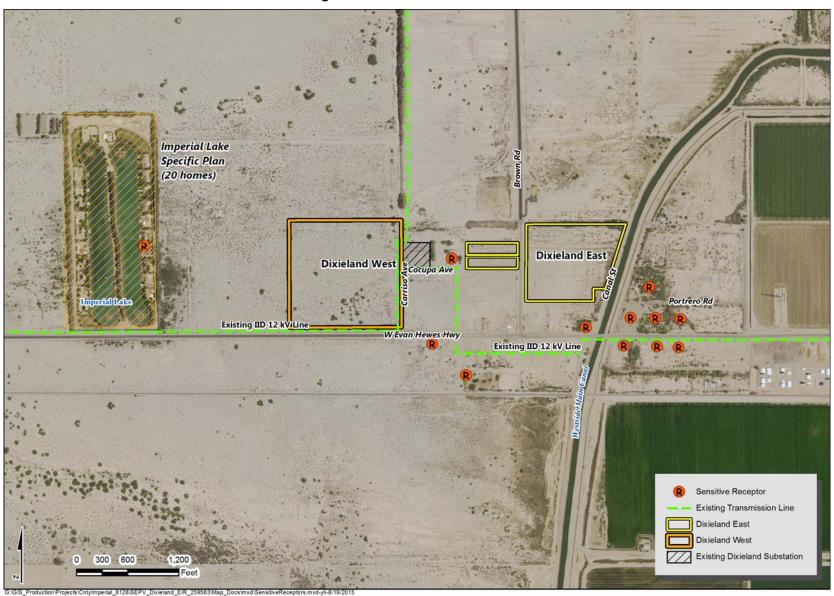


Figure 4.3-1. Residence Locations

Imperial County Air Pollution Control District

The ICAPCD amended the *Air Quality Handbook: Guidelines for the Implementation of CEQA* in November 2007. The ICAPCD established significance thresholds based on the state CEQA thresholds. The handbook was used to determine the proper level of analysis for the projects. The ICAPCD identifies two tiers of emission thresholds to evaluate whether operational impacts from a project have the potential for a significant air quality impact, and to address whether a project must implement additional feasible mitigation measures to reduce emissions to the extent possible. Table 4.3-4 presents the emission thresholds that are identified by the ICAPCD.

TABLE 4.3-4. ICAPCD SIGNIFICANCE THRESHOLDS FOR OPERATION

Criteria Pollutant	Tier 1	Tier 2
NO _x and ROG	Less than 55 lbs/day	55 lbs/day and greater
PM ₁₀ and SO _x	Less than 150 lbs/day	150 lbs/day and greater
CO	Less than 550 lbs/day	550 lbs/day and greater
Level of Significance	Less than Significant	Significant Impact

Source: ICAPCD 2007.

Projects with emissions below Tier 1 would not have a significant impact to air quality. Projects with emissions above Tier 1 but below Tier 2 would be required to implement all applicable standard mitigation measures. Projects with emissions above Tier 2 would be required to implement all applicable standard mitigation measures, plus all feasible discretionary mitigation measures as listed in the ICAPCD's guidance. These thresholds apply to operational emissions.

For construction projects, the Air Quality Handbook indicates that the significance threshold for NO_x is 100 lbs/day and for ROG is 75 lbs/day. As discussed in the ICAPCD's handbook, the approach to evaluating construction emissions should be qualitative rather than quantitative. In any case, regardless of the size of the project, the standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, as listed in Section 7.1 of the ICAPCD's Air Quality Handbook, apply to those construction sites which are five acres or more for non-residential developments or 10 acres or more in size for residential developments. The mitigation measures found in Section 7.1 of the ICAPCD's handbook are intended as a guide of feasible mitigation measures and are not intended to be an all inclusive comprehensive list of all mitigation measures.

Diesel Toxic Risk Thresholds

There are inherent uncertainties in risk assessment with regard to the identification of compounds as causing cancer or other health effects in humans, the cancer potencies and Reference Exposure Levels (RELs) of compounds, and the exposure that individuals receive. It is common practice to use conservative (health protective) assumptions with respect to uncertain parameters. The uncertainties and conservative assumptions must be considered when evaluating the results of risk assessments.

There is debate as to the appropriate levels of risk assigned to diesel particulates. The U.S. EPA has not yet declared diesel particulates as a toxic air contaminant. Using the CARB threshold, a risk concentration of one in one million (1:1,000,000) per micrograms per cubic meter ($\mu g/m^3$) of continuous 70-year exposure is considered less than significant.

4.3.2.2 Methodology

The analysis criteria for air quality impacts are based on the approach and methods discussed in the ICAPCD's Air Quality Handbook. The handbook establishes aggregate emission calculations for determining the potential significance of a project. In the event that the emissions exceed the established thresholds, air dispersion modeling may be conducted to assess whether the projects result in an exceedance of an air quality standard.

The criteria used to evaluate air emissions associated with the projects is based primarily on the combustion emissions generated by motor vehicles and area source emissions (paved and unpaved roads, construction projects, open areas, etc.). An air quality technical report was prepared by OB-1 Air Analyses in August 2015 (Appendix D). This report was used in the evaluation of construction and operational air quality impacts.

The air quality impacts are mainly attributable to the construction of the projects, including any erosion control measures deemed necessary; stabilization of construction entrances and exits to reduce tracking internal access roads; construction of PV modules; and testing/ certification. Operational impacts include inspection and maintenance operations, which includes washing of the solar panels.

4.3.2.3 Impact Analysis

IMPACT 4.3-1

Conflict with or Obstruct Implementation of the Applicable Air Quality Plan.

The projects would not obstruct implementation of applicable air quality plans.

Dixieland East Solar Farm and Dixieland West Solar Farm

The Air Quality Attainment Plan (AQAP) for the SSAB, through the implementation of the AQMP (previously AQAP) and SIP for PM₁₀, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections, meeting the land use designation set forth in the local General Plan, and comparing assumed emissions in the AQMP to proposed emissions. The projects must demonstrate compliance with all ICAPCD applicable rules and regulations, as well as local land use plans and population projections.

The projects do not contain a residential component; therefore, the projects would not result in an increase in regional population that exceeds the forecasts in the AQMP. Furthermore, the projects are consistent with future build-out plans for the project sites under the General Plan as well as with the State's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects will not exceed future population forecasts for future AQMPs. As discussed in the Impact 4.3-2 discussion below, with implementation of mitigation and compliance with all ICAPCD applicable rules and regulations, the projects' operational contribution to PM_{10} would be below a level of significance. The projects would therefore not interfere with the SIP for PM_{10} . A less than significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Viol 4.3-2 Qu

Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air

Quality Violation.

The projects would result in a temporary increase of emissions during construction and operation activities.

The following analysis is broken out by a discussion of potential impacts during construction of the projects followed by a discussion of potential impacts during operation of the projects.

4.3-10

Construction

Air emissions are generated during construction through activities such as grading, clearing, hauling, underground utility construction, paving, and building assembly. Diesel exhaust emissions are generated through the use of heavy equipment such as dozers, loaders, scrapers, and vehicles such as dump/haul trucks. During site clearing and grading, PM_{10} is released as a result of soil disturbance. Construction emissions vary from day-to-day depending on the number of workers, number and types of active heavy-duty vehicles and equipment, level of activity, the prevailing meteorological conditions, and the length over which these activities occur.

Construction activities are proposed to start in mid-2016. Construction is expected to conservatively last for 22 weeks for DESF and 26 weeks for DWSF. The DESF facility is scheduled to begin first, with the DWSF facility construction starting 11 weeks later. Construction of the proposed projects is scheduled to take approximately 36 weeks total to complete. Each separate site would be divided into four potentially overlapping broad phase activities: 1) site preparation, fencing, and ingress/egress; 2) civil improvements – grading/roads/earthwork; 3) PV panel construction; and 4) testing and commissioning. The proposed phase activity duration per project is presented in Table 4.3-5. Please refer to Chapter 3.0, Project Description for a discussion of construction equipment and construction workforce.

Emissions from off-road construction equipment used in construction of the projects were estimated based on the underlying emission and load factors of URBEMIS and CalEEMod computer models. Emissions from vehicular activity related to construction employees and vendors were estimated using CARB's EMFAC2014 Web Based Data Access. Grading fugitive dust was estimated using methodology described in Section 11.9, Western Surface Coal Mining, of the EPA AP-42 and as presented in the CalEEMod User's Guide.

Emissions are presented below for each of the two individual solar projects and the combined SEPV Project. Since the thresholds for criteria pollutants are in pounds per day, emissions are estimated from each activity phase for each facility, and then combined with other activity phases where they overlap, to generate the maximum emissions per day. There is some overlap of activity phases for each separate facility, as well as some overlap between facilities in the overall scheduling of the entire SEPV Project. Emissions presented below are considered unmitigated, which is to mean hypothetical emissions from construction activity, which does not apply equipment or activity restrictions or controls, even those required by ICAPCD regulations.

TABLE 4.3-5. PROJECT PHASE DURATIONS

	Duration (months)	
Activity Phase	DESF	DWSF
Phase 1 - Site Preparation, Fencing, and Ingress/Egress	1.4	1.6
Phase 2 - Civil Improvements -Grading/Roads/Earthwork	1.9	2.2
Phase 3 - PV Panel Construction	3.9	4.6
Phase 4 - Testing and Commissioning	0.7	0.8
Solar Site Facility Duration	5.1	6.0

Note: The sum of the individual activity phase durations do not add up to the overall project duration due to activity phase overlap.

Source: OB-1 Air Analyses, 2015 (Appendix D)

Dixieland East Solar Farm

The DESF project is estimated to be complete within six months from project start. Table 4.3-6 presents the daily maximum hypothetical unregulated and regulated emissions for each month of construction for the DESF project. As shown in Table 4.3-6, the DESF project would not exceed the ICAPCD significance thresholds for ROG, CO, NO_x , and PM_{10} . Although no significant air quality would occur during construction, all construction projects within Imperial County must comply with the requirements of

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ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to further improve air quality. Therefore, a **less than significant** impact is identified.

TABLE 4.3-6. UNMITIGATED CONSTRUCTION EMISSIONS FOR DIXIELAND EAST SOLAR FARM

	Criteria Emissions (Ibs/day)				
Month/Activity	ROG	СО	NO _X	PM ₁₀	PM _{2.5}
1 st Month – Phases 1, 2, & 3	6.9	39.8	50.1	74.0	10.5
2 nd Month – Phases 1, 2, & 3	6.9	39.8	50.1	74.0	10.5
3 rd Month – Phases 2 & 3	5.6	32.6	41.0	60.6	8.7
4 th Month – Phase 3	3.2	20.4	24.2	33.9	5.1
5 th Month – Phases 3 & 4	3.3	22.1	24.5	46.9	6.5
6 th Month – Phase 4	0.1	1.7	0.3	12.9	1.4
DESF Maximum Daily	6.9	39.8	50.1	74.0	10.5
ICAPCD Threshold	75	550	100	150	N/A
Exceed Thresholds?	No	No	No	No	IV/A

Source: OB-1 Air Analyses, 2015 (Appendix D)

Dixieland West Solar Farm

The DWSF project is estimated to be completed within six months from project start. Table 4.3-7 presents the daily maximum hypothetical unregulated and regulated emissions for each month of construction for the DWSF project. As shown in Table 4.3-7, the DWSF project would not exceed the ICAPCD significance thresholds for ROG, CO, NO_x, and PM₁₀. Although no significant air quality would occur during construction, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to further improve air quality. Therefore, a **less than significant** impact is identified.

TABLE 4.3-7. UNMITIGATED CONSTRUCTION EMISSIONS FOR DIXIELAND WEST SOLAR FARM

	Criteria Emissions (lbs/day)				
Month/Activity	ROG	СО	NO _X	PM ₁₀	PM _{2.5}
3 rd Month – Phases 1 & 2	3.6	19.5	26.0	40.1	5.5
4 th Month – Phases 1, 2, & 3	7.1	40.9	51.8	74.1	10.6
5 th Month – Phases 1, 2, & 3	7.1	40.9	51.8	74.1	10.6
6 th Month – Phase 3	3.4	21.5	25.9	34.0	5.2
7 th Month – Phase 3	3.4	21.5	25.9	34.0	5.2
8 th Month - Phases 3 & 4	3.5	23.1	26.2	47.0	6.6
9 th Month - Phase 4	0.1	1.7	0.3	12.9	1.4
DWSF Maximum Daily	7.1	40.9	51.8	74.1	10.6
ICAPCD Threshold	75	550	100	150	N/A
Exceed Thresholds?	No	No	No	No	IV/A

Source: OB-1 Air Analyses, 2015 (Appendix D)

SEPV Project

Table 4.3-8 shows the hypothetical unregulated combined emissions from the construction of both solar projects. As shown in Table 4.3-8, the unregulated emissions from the construction of the entire SEPV Project would not exceed the ICAPCD significance thresholds for ROG, CO, NO_x, and PM₁₀. Although no significant air quality would occur during construction, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to further improve air quality. Therefore, a **less than significant** impact is identified.

TABLE 4.3-8. UNMITIGATED CRITERIA TEMPORAL SUMMARY FOR SEPV PROJECT

Month		Criteria Emissions (Ibs/day)				
#	Solar Farm	ROG	СО	NO _X	PM ₁₀	PM _{2.5}
1	DESF	6.88	39.83	50.12	74.03	10.53
I	Month 1 Totals	6.9	39.8	50.1	74.0	10.5
2	DESF	6.88	39.83	50.12	74.03	10.53
	Month 2 Totals	6.9	39.8	50.1	74.0	10.5
	DESF	5.64	32.65	40.97	60.62	8.67
3	DWSF	3.65	19.47	25.96	40.09	5.47
	Month 3 Totals	9.3	52.1	66.9	100.7	14.1
	DESF	3.23	20.37	24.16	33.93	5.06
4	DWSF	7.08	40.92	51.84	74.13	10.62
	Month 4 Totals	10.3	61.3	76.0	108.1	15.7
	DESF	3.29	22.06	24.46	46.88	6.47
5	DWSF	7.08	40.92	51.54	74.13	10.62
	Month 5 Totals	10.4	63.0	76.3	121.0	17.1
	DESF	0.06	1.69	0.30	12.95	1.41
6	DWSF	3.43	21.45	25.88	34.03	5.15
	Month 6 Totals	3.5	23.1	26.2	47.0	6.6
7	DWSF	3.43	21.45	25.88	34.03	5.15
1	Month 7 Totals	3.4	21.5	25.9	34.0	5.2
8	DWSF	3.49	23.14	26.18	46.98	6.56
0	Month 8 Totals	3.5	23.1	26.2	47.0	6.6
9	DWSF	0.06	1.69	0.30	12.95	1.41
9	Month 9 Totals	0.1	1.7	0.3	12.9	1.4
SEPV P	SEPV Project Maximum Daily 10.4 63.0 76.3 121.0				17.1	
ICAPCE	Threshold	75	550	100	150	N/A
Exceed	Thresholds?	No	No	No	No	IV/A

Operation

Dixieland East Solar Farm and Dixieland West Solar Farm

The solar facilities would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. The facilities would be remotely operated, controlled, and monitored and with no requirement for daily on-site employees. Local and remote operations and maintenance staff would be on-call to respond to any alerts generated by the monitoring systems, and would be present on the site periodically to perform maintenance.

A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels. DESF would require approximately 7,000 gallons of water for each routine panel washing operation. Approximately 10,000 gallons of water would be required for DWSF for each routine panel washing operation. Replacement parts and components would be warehoused off site and deployed as needed. Most scheduled maintenance would occur during daytime hours but work may be performed at night for safety reasons.

Table summarizes each site's total project-related annual operational air emissions. As shown in Table 4.3-9, operational emissions would be below ICAPCD's Tier 1 Regional thresholds for operational emissions. Furthermore, the project applicant is required to submit a Dust Suppression Management Plan for both construction and operations to reduce fugitive dust emissions (Mitigation Measures AQ-3 and AQ-4). The impact is considered **less than significant** for each individual site.

		Criteria Emissions (lbs/d)				
Activity Type	ROG	СО	NOx	PM ₁₀	PM _{2.5}	
Onsite Activity	0.001	0.039	0.005	0.001	0.000	
Offsite Activity	0.007	0.260	0.035	0.006	0.003	
Dixieland East Solar Farm Total	0.01	0.30	0.04	0.01	0.00	
Onsite Activity	0.001	0.039	0.005	0.001	0.000	
Offsite Activity	0.007	0.260	0.035	0.006	0.003	
Dixieland West Solar Farm Total	0.01	0.30	0.04	0.01	0.00	
Maximum Daily for SEPV Project	0.02	0.60	0.08	0.01	0.01	
ICAPCD Regional Thresholds	55	550	55	150	A14	
Exceed Thresholds?	No	No	No	No	NA	

TABLE 4.3-9. ESTIMATED OPERATIONAL CRITERIA EMISSIONS

Mitigation Measure(s)

The following mitigation measures are required for DESF and DWSF. Records sufficient to document compliance with mitigation measures shall be maintained on site at all times and available for ICAPCD inspection.

- **AQ-1 Construction Equipment.** The operator shall insure the use of Tier 2 vehicles or the equivalent alternative fueled or catalyst equipped diesel construction equipment, where practicable, including all off-road and portable diesel powered equipment.
- **AQ-2 Fugitive Dust Control.** Pursuant to ICAPCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. Whereas these Regulation VIII measures are mandatory and are not considered project environmental mitigation measures, the ICAPCD CEQA Handbook's required additional standard and enhanced mitigation measures listed below shall be implemented prior to and during construction. The County Department of Public Works will verify implementation and compliance with these measures as part of the grading permit review/approval process.

ICAPCD Standard Measures for Fugitive Dust (PM₁₀) Control

 The operator shall insure that all disturbed areas, including bulk material storage, which is not being actively utilized, will be effectively stabilized and visible emissions will be limited to no greater than 20% opacity for dust emissions by using water,

- chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
- The operator shall insure that all on-site unpaved roads will be effectively stabilized and visible emissions be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The operator shall insure that all transport (import or export) of borrow material used as cover material will be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of borrow material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
- The operator shall insure that all track-out or carryout will be cleaned at the end of each workday.

ICAPCD "Discretionary" Measures for Fugitive Dust (PM10) Control

- Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities.
- Replace ground cover in disturbed areas as quickly as possible.
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
- Implement the trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees.
- Implement a shuttle service to and from retail services and food establishments during lunch hours.

Standard Mitigation Measures for Construction Combustion Equipment

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

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

Enhanced Mitigation Measures for Construction Equipment

- Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
- Implement activity management (e.g., rescheduling activities to reduce short-term impacts).
- **AQ-3 Dust Suppression.** The project applicant shall employ a method of dust suppression (such as water or chemical stabilization) approved by ICAPCD. The project applicant shall apply chemical stabilization as directed by the product manufacturer to control dust between the panels as approved by ICAPCD, and other non-used areas (exceptions will be the paved

entrance and parking area, and Fire Department access/emergency entry/exit points as approved by Fire/OES Department).

AQ-4 Dust Suppression Management Plan. Prior to any earthmoving activity, the applicant shall submit and obtain approval from the ICAPCD and Imperial County Planning and Development Services Department (ICPDSD) a construction Dust Control Plan. Prior to the issuance of a Certificate of Occupancy, the applicant shall submit and obtain approval from the ICAPCD and ICAPDSD an Operations Dust Control Plan.

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

Significance After Mitigation

Although the proposed projects would not exceed ICAPCD's threshold, Mitigation Measures AQ-1 through AQ-4 would provide additional reduction strategies to further improve air quality and reductions in criteria pollutants (ozone precursors). A **less than significant** impact is identified.

IMPACT Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the 4.3-3 Project Region is Non-Attainment.

The projects would result in a temporary increase of PM_{10} , CO, ROG, and NO_x (ozone precursors) during construction activities.

The following analysis is broken out by a discussion of potential impacts during construction of the projects followed by a discussion of potential impacts during operation of the projects.

Construction

Dixieland East Solar Farm and Dixieland West Solar Farm

Imperial County is classified as a "serious" non-attainment area for PM_{10} and a "moderate" non-attainment area for 8-hour ozone for the NAAQS and non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. As identified above in Impact 4.3-2, the projects would result in emissions of the air pollutants ROG, NO_x , CO, and PM_{10} . However, construction activities would not result in a significant increase in CO, ROG, and NO_x that would exceed ICAPCD thresholds. The projects' emissions of ozone precursors and particulate matter are mainly attributable to temporary construction activities. These activities would cease after approximately nine months. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce the emissions to a level **less than significant**.

Operation

Dixieland East Solar Farm and Dixieland West Solar Farm

The operational impacts associated with the projects were less than significant. However, the proposed projects, in conjunction with cumulative projects, could result in a cumulatively considerable impact related to PM_{10} before implementation of mitigation. With mitigation, a **less than significant** impact is identified. Please refer to Section 6.0 Cumulative Impacts.

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Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.3-4

Expose Sensitive Receptors to Substantial Pollutant Concentrations?

The projects would result in a temporary increase of PM_{10} , CO, ROG, and NO_x during construction activities, in addition to diesel particulate matter.

Dixieland East Solar Farm and Dixieland West Solar Farm

As shown in Figure 4.3-1, there are residential uses adjacent to the project sites (within approximately 1,500 feet). Construction activities would result in emissions of diesel particulate matter from heavy construction equipment used on site and truck traffic to and from the site, as well as minor amounts of TAC emissions from motor vehicles (such as benzene, 1,3-butadiene, toluene, and xylenes). Health effects attributable to exposure to diesel particulate matter are long-term effects based on chronic (i.e., long-term) exposure to emissions. Health effects are generally evaluated based on a lifetime (70 years) of exposure. Due to the short-term nature of construction at the site, no adverse health effects would be anticipated from short-term diesel particulate emissions. In addition, motor vehicle emissions would not be concentrated in any one area but would be dispersed along travel routes and would not be anticipated to pose a significant health risk to receptors. The projects compliance with Regulations VIII will prevent the residences exposure to substantial pollutant concentrations. The hours of construction will occur during the day when most people are at work. A **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.3-5

Create Objectionable Odors Affecting a Substantial Number of People.

The projects would not result in objectionable odors during construction and operation.

Dixieland East Solar Farm and Dixieland West Solar Farm

An odor impact depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies.

Among physical harms that are possible are inhalation of volatile organic compounds (VOCs) that cause smell sensations in humans. These odors can affect human health in four primary ways:

- The VOCs can produce toxicological effects;
- The odorant compounds can cause irritations in the eye, nose, and throat;
- The VOCs can stimulate sensory nerves that can cause potentially harmful health effects; and
- The exposure to perceived unpleasant odors can stimulate negative cognitive and emotional responses based on previous experiences with such odors.

Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and concentrated agricultural feeding operations and dairies. The construction and operation of a solar farm is not an odor producer and the project sites are not located near an odor producer.

No major sources of odors were identified in the vicinity of the project sites that could potentially affect proposed on-site land uses. Development of the projects could generate trace amounts (less than $1 \mu g/m^3$) of substances such as ammonia, carbon dioxide, hydrogen sulfide, methane, dust, organic dust, and endotoxins (i.e., bacteria are present in the dust). Additionally, proposed on-site uses could generate

4.3-17

such substances as volatile organic acids, alcohols, aldehydes, amines, fixed gases, carbonyls, esters, sulfides, disulfides, mercaptans, and nitrogen heterocycles. Any odor generation would be intermittent and would terminate upon completion of the construction activities. It is unlikely that heavy construction that could result in the emission of objectionable odors will occur immediately adjacent to any residence. A **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.3.3 Decommissioning/ Restoration and Residual Impacts

Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration of the project sites would generate air emissions. A summary of the daily construction emissions for each of the projects as well as the projects during concurrent construction is provided in Tables 4.3-6 through 4.3-8. A similar scenario would be expected to occur during the decommissioning and site restoration stage for each of the projects. Air quality emissions would be similar to or less than the emissions presented for construction. No significant air quality impacts are anticipated during decommissioning and restoration of the project sites. However, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. Mitigation Measures AQ-1 through AQ-5 would provide additional reduction strategies to further improve air quality. Therefore, a **less than significant** impact is identified during decommissioning and site restoration.

Residual

The projects would not result in short-term significant air quality impacts during construction. Implementation of Mitigation Measures AQ-1 and AQ-2 would provide additional reduction strategies to reduce ROG, NO_x , PM_{10} , and CO emissions during construction. Operation of the projects, subject to the approval of a CUP, would be consistent with applicable federal, state, regional, and local plans and policies. Implementation of Mitigation Measures AQ-3 and AQ-4 would ensure that fugitive dust emissions would be reduced during operations. The projects would not result in any residual operational significant and unavoidable impacts with regards to air quality.

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4.4 BIOLOGICAL RESOURCES

This section discusses biological resources that may be impacted by the proposed projects. The following identifies the existing biological resources in the project area, analyzes potential impacts due to the implementation of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects. Information for this section is summarized from the *Biological Habitat Assessment and Focused Burrowing Owl, Flat-Tailed Horned Lizard, and Botanical Surveys for SEPV Dixieland East and West* (herein referred to as "Biological Technical Report") and *Jurisdictional Delineation Report for SEPV Dixieland East and West* prepared by Phoenix Biological Consulting. These reports are included in Appendix E of this Environmental Impact Report (EIR).

4.4.1 Environmental Setting

The Biological Technical Report (BTR) integrates information collected from a variety of literature sources and field survey to describe the biological resources within the vicinity of the project sites. A biological assessment of the project study area was conducted on April 27, 2015. Burrowing owl, flat-tailed horned lizard and rare plant surveys were conducted during the spring of 2015. These surveys were conducted to map vegetation communities, inventory species present at the time of the survey, and assess the presence or potential for occurrence of sensitive and priority plant and animal species within the project area.

4.4.1.1 Regulatory Setting

Federal

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone without a permit to "take" bald or golden eagles. 'Take' is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." 'Disturb' is defined as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior" (USFWS 2011).

Federal Endangered Species Act

Enacted in 1973, the federal Endangered Species Act (ESA) provides for the conservation of threatened and endangered species and their ecosystems. The ESA prohibits the "take" of threatened and endangered species except under certain circumstances and only with authorization from the U.S. Fish and Wildlife Service (USFWS) through a permit under Section 4(d), 7 or 10(a) of the Act. Under the ESA, "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Migratory Bird Treaty Act

Congress passed the Migratory Bird Treaty Act (MBTA) in 1918 to prohibit the kill or transport of native migratory birds, or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA. The prohibition applies to birds included in the respective international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia.

Section 404 Permit (Clean Water Act)

The Clean Water Act (CWA) establishes a program to regulate the discharge of dredge and fill material into waters of the U.S. including wetlands. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry. Either an individual 404b permit or authorization to use an existing U.S. Army Corps of Engineers (USACE) Nationwide Permit will need to be obtained if any portion of the construction requires fill into a river, stream, or stream bed that has been determined to be a jurisdictional waterway. When applying for a permit a company or organization must show that they would avoid wetlands when practicable, minimize wetland impacts, and provide compensation for any unavoidable destruction of wetlands.

State

California Environmental Quality Act

Title 14 California Code of Regulations (CCR) 15380 requires that endangered, rare or threatened species or subspecies of animals or plants be identified within the influence of the project. If any such species are found, appropriate measures should be identified to avoid, minimize or mitigate to the extent possible the effects of the project.

California Department of Fish and Wildlife Code 1600 (as amended)

The California Department of Fish and Wildlife (CDFW) regulates activities that substantially diverts or obstructs the natural flow of any river, stream, or lake or uses materials from a streambed. This can include riparian habitat associated with watercourses.

California Department of Fish and Wildlife Codes 3503, 3503.5, and 3513

CDFW Codes 3503, 3503.5, and 3513 protect migratory birds, bird nests and eggs including raptors (birds of prey) and raptor nests from take unless authorized by CDFW. Additionally, the State further protects certain species of fish, mammals, amphibians and reptiles, birds and mammals through CDFW's Fully Protected Animals which prohibits any take or possession of classified species. No licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Most Fully Protected Species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations (CDFW 2011).

California Department of Fish and Wildlife Code Sections 1900-1913 – Native Plant Protection Act

The Native Plant Protection Act (NPPA) prohibits the taking, possessing, or sale within the state of any plant listed by CDFW as rare, threatened, or endangered. An exception to this prohibition in the Act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW at least 10 days prior to the initiation of activities that would destroy them. The NPPA exempts from "take" prohibition "the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way."

Porter-Cologne Water Quality Control Act, as Amended

Administered by the State Water Resource Control Board (SWRCB), protects water quality and is an avenue to implement California responsibilities under the CWA. This act regulates discharge of waste into a water resource.

Local

Imperial County General Plan

The 1993 Conservation Element and Open Space Element provides detailed plans and measures for the preservation and management of biological and cultural resources, soils, minerals, energy, regional aesthetics, air quality, and open space. The purpose of the Conservation and Open Space Element is to promote the protection, maintenance, and use of the County's natural resources with particular emphasis on scarce resources, and to prevent wasteful exploitation, destruction, and neglect of the State's natural resources. Additionally, the purpose of this Element is to recognize that natural resources must be maintained for their ecological value for the direct benefit to the public, protect open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and for public health and safety. It should be noted that Imperial County has received funding from the California Energy Commission (CEC) Renewable Energy and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of renewable energy projects. The CEC grant includes an update to the 1993 Conservation/Open Space Element to facilitate future development of renewable energy projects. The update of the 1993 Conservation/Open Space Element will assist in identifying areas that will conserve habitat areas on federal, state, military, tribal and private lands in the County. Table 4.4-1 analyzes the consistency of the projects with specific policies contained in the Imperial County General Plan (Imperial County, as amended through 2008) associated with biological resources.

TABLE 4.4-1. PROJECT CONSISTENCY WITH GENERAL PLAN BIOLOGICAL RESOURCE POLICIES

General Plan Policies	Consistency with General Plan	Analysis
Open Space Conservation Policy: The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County.	Yes	Biological assessments and reports have been conducted at the project study areas in regard to the proposed projects.
Program: Notify any agency responsible for protecting plant and wildlife before approving a project which would impact a rare, sensitive, or unique plant or wildlife habitat.		Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed projects and provided an opportunity to comment on this EIR prior to the County's consideration of any approvals for the projects.
Land Use Element Policy: The General Plan covers the unincorporated area of the County and is not site specific, however, a majority of the privately owned land is located in the area identified by the General Plan as "Agriculture," which is also the predominate area where burrowing owls create habitats, typically in the brims and banks of agricultural fields.	Yes	See response to the Open Space Conservation Policy above. Additionally, Burrowing Owl Focused Surveys have been conducted in accordance with the wildlife agency protocols. The results and mitigation are provided in this section of this EIR.
Program: Prior to approval of development of existing agricultural land either in form of one parcel or a numerous adjoining parcels equally a size of 10 acres or more shall prepare a Biological survey and mitigate the potential impacts. The survey must be prepared in accordance with the United States Fish and Wildlife and California Department of Fish and Game regulations, or as amended.		

4.4.1.2 Existing Conditions

4.4.1.2.1 Vegetation Communities

The project sites are surrounded by relatively undeveloped, moderately disturbed desert scrubland. Open access BLM lands are adjacent to the west and north sides of Dixieland West Solar Farm (DWSF), and the Westside Main Canal is located to the east of Dixieland East Solar Farm (DESF). A large area of cultivated agricultural croplands is situated on the east side of the Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF.

Disturbance levels for the project site are as follows; DWSF is relatively undisturbed, DESF (central parcels, Assessor Parcel Number (APN) 051-035-001 and -002) is moderately disturbed, and DESF (eastern parcel, APN 051-047-001) is disturbed. Major disturbances within the project vicinity include evidence of historic surface flooding/agriculture within DESF, the Dixieland Substation located in between the project sites, a concrete lined irrigation canal that intersects the northeastern corner of DWSF and traverses across Brown Road extending through the northern portion of DESF, and a rural private residence (bordering the DESF (central parcel). Other disturbances consist of a dirt road that transects the northern portion of DWSF, an existing Imperial Irrigation District (IID) transmission line and right-of-way (ROW) that borders the southern and eastern sides of the DWSF boundary, and two major paved roads; Brown Road and Evan Hewes Highway. There is also evidence of off-road vehicular travel throughout the project area. Additional disturbances specific to DESF (eastern parcel) include irrigation rows, with inkweeed (*Suaeda nigra*), a berm that divides the parcel, and a fenced area previously used as a cattle corral.

As shown in Table 4.4-1 and Figure 4.4-1, the dominant habitat types within DWSF consist of approximately 35.5 acres of creosote scrub and 2.5 acres of mesquite. The habitat types within DESF consist of 4.1 acres of creosote scrub, 19.7 acres of ruderal habitat and 1.1 acres of Tamarix thicket. None of the aforementioned habitat communities are considered sensitive. Each habitat type is described in more detail below.

TABLE 4.4-2. VEGETATION COMMUNITIES/HABITAT TYPES WITHIN THE PROJECT STUDY AREAS

Vegetation Community/ Habitat Type	DESF (acres)	DWSF (acres)	Total
Creosote bush scrub	4.1	35.5	39.6
Mesquite		2.5	2.5
Ruderal	19.7		19.7
Tamarix thicket	1.1		1.1
Total	24.9	38	62.9

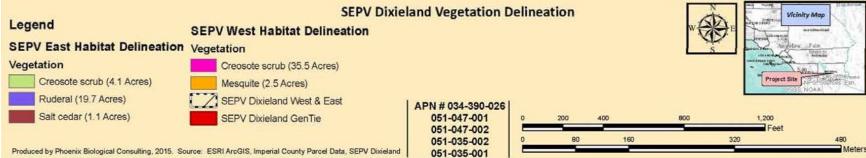
Source: Phoenix Biological Consulting, 2015.

Creosote Bush Scrub

DWSF and DESF (central parcel) consist predominately of Creosote bush scrub (*Larrea tridentata*). Creosote bush scrub occurs on alluvial fans, bajadas, upland slopes, and minor intermittent washes at elevations between -75 to 1000 meters. Soils of creosote bush scrub are well drained, with open to intermittent vegetation; sometimes containing desert pavement. Some of the common plant species associated with creosote bush scrub are goldenhead (*Acamptopappus spp.*), ragweed or bursage (*Ambrosia spp.*), and saltbush (*Atriplex spp.*).



Figure 4.4-1. Existing Vegetation Communities



Mesquite

Within the creosote bush scrub in DWSF, is a patch of western honey mesquite (*Prosopis glandulosa var. torreyana*), which is recognized by the USFWS Wetland Inventory as a non-hydrophyte facultative upland plant that usually occurs in non-wetlands, but may occur in wetlands. Mesquite habitats generally occur on fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes.

Ruderal

DESF (eastern parcel) is dominated by ruderal habitat, which is composed of nonnative herbaceous species that generally colonize areas of sustained disturbance. Plant species associated with ruderal habitats include: tumbleweed (*Salsola tragus*), ripgut (*Bromus diandrus*), red brome (*Bromus madritensis*), and Mediterranean grass (*Schismus spp.*). Ruderal habitat offers limited opportunities for wildlife species due to the lack of native species cover, continued disturbance, and overall habitat degradation.

The northern portion of DESF (eastern parcel) that was previously used as a cattle corral is dominated by saltbush (*Atriplex canescens*) scrub re-growth habitat. Saltbush scrub habitat occurs in playas, old beach and shores, lake deposits, dissected alluvial fans, and rolling hills at elevations between -75 and 1500 meters. Soils associated with saltbush scrub are alkaline, sandy or sandy clay loams. The USFWS Wetland Inventory recognizes *Atriplex canescens* as a nonhydrophyte facultative upland plant that usually occurs in non-wetlands, but may occur in wetlands.

Tamarisk Thicket

The northern edge of DESF (eastern parcel) is composed of Tamarisk (Tamarix spp.), which is associated with arroyo margins, lake margins, ditches, washes, rivers, and other watercourses.

4.4.1.2.2 Wildlife Species

A thorough California Natural Diversity Database (CNDDB) literature review was conducted to determine which species occur within a ten mile search radius of the project sites (see Table 3 in Appendix E). Twenty-six sensitive species were detected within the ten mile CNDDB search radius. An additional sixteen special status target species, considered for potential occurrence, were included in the search results. Multiple habitat types fall within the ten mile radius; therefore, several species fall out of range limits for potential habitat type given the specific characteristics of the site.

In addition to the CNDDB literature review, on April 27, 2015, a biological habitat assessment was conducted on the project sites to determine the potential for special-status biological resources to occur on or within the project vicinity. Based on the biological habitat assessment, focused surveys were conducted for burrowing owl, flat-tailed horned lizard and rare plants during the spring of 2015. The results of the CNDDB literature review, biological habitat assessment, and focused surveys are discussed below.

Threatened or Endangered Wildlife Species

The literature review process identified three federal and/or state of California endangered and/or threatened wildlife species known to occur within the CNDDB ten mile search radius of the project site: California black rail (*Laterallus jamaicensis coturniculus*), Yuma clapper rail (*Rallus longirostris yumanensis*), and barefoot gecko (*Coleonyx switaki*). Based on habitat requirements and geographic restrictions, no species listed as state or federally endangered and/or threatened included in the literature search results is likely to occur on the project sites.

Sensitive Wildlife Species

The following California Species of Concern and CDFW sensitive species that are either known to occur within the CNDDB ten mile search radius, or are target species of concern, have the potential to occur on the project sites:

- Burrowing owl (Athene cunicularia)
- Prairie falcon (Falco mexicanus)
- Loggerhead shrike (Lanius Iudovicianus)
- Vermillion flycatcher (Pyrocephalus rubinus)
- Le Conte's thrasher (Toxostoma lecontei)
- Lowland leopard frog (Lithobates yavapaiensis)
- Colorado Valley woodrat (Neotoma albigula venusta)
- Flat-tailed horned lizard (Phrynosoma mcallii)
- American badger (Taxidea taxus)
- Colorado Desert fringe-toed lizard (*Uma notate*)

Detailed information regarding the status of these potentially occurring California species of concern, along with their distribution and habitat requirements are provided below.

Birds

The CNDDB literature review process identified the occurrence of the burrowing owl, Mountain plover, California black rail, vermillion flycatcher, Yuma clapper rail, and Le Conte's thrasher within a ten mile radius. Other sensitive bird species, not included in the CNDDB ten-mile search results, but worth noting due to their declining status in the region, are the prairie falcon and loggerhead shrike. Of the bird species identified through the CNDDB literature search, none have the potential to occur within the project area. Those species in which suitable habitat is present are detailed below, however, these species are considered absent since they were not detected during focused surveys:

Burrowing Owl

Federal Status: None

State Status: California Species of Concern (CSC)

CNDDB Element Ranking System (Global Ranking/State Ranking): Apparently Secure (G4)/Vulnerable

(S3)

Burrowing owl inhabits open grassland, shrub-grasslands, savannas, farmland, prairies, vacant lots, airfields, and other open areas. Prefers flat open ground with bare soil or short grass. The presence of burrows is an essential component to burrowing owl habitat. Typically uses burrows excavated by other animals, such as ground squirrels or badgers, but may also use man-made structures. Artificial burrows may include culverts, concrete pipes, debris piles, and openings beneath cement and asphalt. Commonly found in early successional plant communities because ground cover is low with open cover; ideal conditions for burrow selection.

Based on the results of the habitat assessment, focused surveys were conducted for burrowing owl during the spring of 2015. The burrowing owl surveys were conducted by walking straight-line transects spaced 7 m to 20 m apart, adjusting for vegetation height and density. At the start of each transect and, at least, every 100 m, the entire visible project area was scanned for burrowing owls using binoculars. During the pedestrian surveys, the biologists recorded all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration. The field biologists also paused at regular intervals to listen for owl vocalizations. Survey teams used hand-held mirrors to view into any potential burrows. Buffer zone surveys were conducted out to 150 meters from the project edge. The owl surveys started approximately a half hour after sunrise and

ending no later than a half hour before sunset. Surveys were conducted in all portions of the project sites and buffer areas that were identified in the habitat assessment.

The field results were negative for burrowing owls. During the field effort, nine coyote burrows were observed within the DWSF site. One coyote burrow was observed immediately north of the DWSF site (Figure 4.4-2). All of the burrows were absent of owl sign. The coyote burrows all appeared to be inactive and some appear to have been canid forage holes.

Prairie Falcon

Federal Status: None State Status: None

CNDDB Element Ranking System: Secure (G5)/Apparently Secure (S4)

Prairie falcon are typically found in fairly arid open country, including deserts, grasslands, and high mountains (above tree line). Winters in farmland, around lakes and reservoirs, and sometimes found in southwestern cities. Nests on cliff edges and rock outcroppings; sometimes nests on dirt bank or in abandoned nest of raven or hawk. Prairie falcon was not observed on the project sites during field investigations.

Loggerhead Shrike

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Apparently Secure(G4)/Apparently Secure(S4)

Loggerhead shrike occupies semi-open terrain, in wooded regions with large clearings and open grassland or desert with a few scattered trees or large shrubs. Often found along mowed roadsides with fence lines and utility poles for perching. Loggerhead shrike was not observed on the project sites during field investigations.

Vermillion Flycatcher

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Secure (G5)/ Imperiled/Vulnerable (S2S3)

Vermillion flycatcher inhabits scrub, deserts, cultivated lands, and riparian woodlands. Generally found along streams or pond edges in arid country, savannas, and ranches. Occasionally found in dry grasslands or desert with scattered trees. Vermillion flycatcher was not observed on the project sites during field investigations.

LeConte's Thrasher

Federal Status: None State Status: None

CNDDB Element Ranking System: Apparently Secure (G4)/ Vulnerable (S3)

LeConte's thrasher habitat consists of desert flats with scattered low shrubs, especially sparse saltbush growth, and sometimes creosote bush flats with a few slightly larger mesquites or cholla cactus. LeConte's thrasher was not observed on the project sites during field investigations.

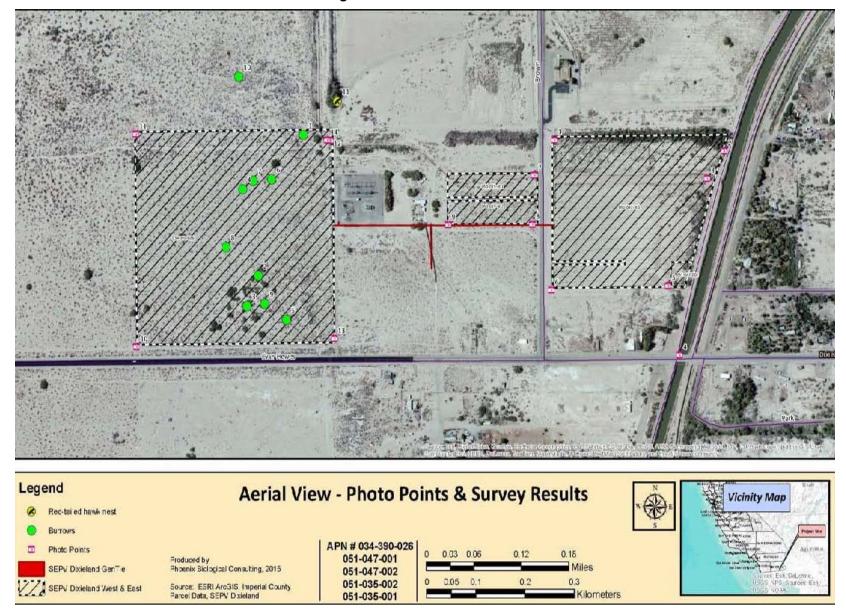


Figure 4.4-2. Observed Wildlife

Mountain Plover

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Vulnerable(G3)/Imperiled (S2)

Mountain plover breeds in open plains in Canada and central US. Nests in areas are characterized by very short vegetation, with at least 30% bare ground, and flat or gentle slopes. Overwinters from Sacramento, CA to Mexico on dry barren ground, smooth dirt fields, sandy deserts and shortgrass prairies. In southern California, heavily grazed native rangelands are preferred for wintering. Found at moderate elevations. Prefers alkali flats and generally avoids moist soils.

The mountain plover is not likely to occur on the project sites because its breeding habitat is out of geographic range. Mountain plover are known to be frequent agriculture fields in the desert during winter months. However, no agriculture fields are present on the site. The mountain plover breeds in southern Canada and the central U.S. including, Montana, Wyoming, Colorado, and New Mexico.

California Black Rail

Federal Status: None State Status: Threatened

CNDDB Element Ranking System: Vulnerable, Apparently Secure (G3G4T1)/Critically Imperiled (S1)

California black rail inhabits a variety of areas from high coastal marshes to freshwater marshes along the Colorado River. In saltmarshes, favors areas dominated by pickleweed, bulrushes, and matted salt grass. Along the Colorado River, prefers areas of shallow water with flat shorelines with dense stands of three-square bulrush. Nests are in or along edge of marsh.

Due to habitat requirements, the California black rail is not likely to occur on the project sites. The California black rail inhabits high coastal marshes to freshwater marshes along the Colorado River. The project site is primarily composed of creosote bush scrub and ruderal habitat, and lacks the marshland habitat required for California black rail.

Yuma Clapper Rail

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Secure (G5)/Imperiled, Vulnerable (S2S3)

Yuma clapper rail inhabits freshwater marshlands containing dense stands of emergent riparian vegetation; preferred habitat dominated by cattails and bulrushes. Requires wet substrate (mudflat, sandbar) with dense woody or herbaceous vegetation for nesting and foraging, and a mosaic of vegetated areas interspersed with areas of shallow (<12") open water areas. Typically found below 4,500 feet in elevation.

Due to habitat requirements, the Yuma clapper rail is not likely to occur on the project sites. The Yuma clapper rail is found in freshwater marshlands containing dense stands of emergent vegetation. The project site is primarily composed of creosote bush scrub and ruderal habitat, and lacks the marshland habitat required for this species.

Invertebrates

No sensitive invertebrate species were found within the ten-mile CNDDB search radius.

Mammals

The CNDDB literature review process identified the western yellow bat (*Lasiurus xanthinus*), Colorado Valley woodrat, Yuma hispid cotton rat (*Sigmodon hispidus eremicus*), and American badger within the CNDDB ten-mile search radius. Of those mammal species, the Colorado Valley woodrat has potential to occur in the project area.

Western Yellow Bat

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Secure (G5)/Vulnerable (S3)

Western yellow bat inhabits valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Occupies arid regions in the southwest. Often roosts in trees, especially palm oases and ornamental palms. Tends to roost and feed in and near palm oasis and riparian habitat. In California, this species appears to roost exclusively in the skirts of palm trees. Elevation ranges from sea level to 2,000 meters.

The western yellow bat is not likely to occur on the project sites due to the lack of preferred roosting habitat. The western yellow bat prefers riparian woodland habitat, and, in California, the western yellow bat appears to roost exclusively in the skirts of palm trees, which do not occur within the project area.

Colorado Valley Woodrat

Federal Status: None State Status: None

CNDDB Element Ranking System: Secure (G5T3T4) /Critically Imperiled, Imperiled (S1S2)

Common in low-lying desert areas; often associated with the presence of prickly pear and mesquite. Distribution is highly influenced by the abundance of den building materials such as, cholla, prickly pear, mesquite, and catclaw. Colorado Valley woodrat was not observed on the project sites during field investigations. However, den building materials are present on the project sites among the mesquite and tamarisk trees. Therefore, this species has the potential to occur on the project sites.

Yuma Hispid Cotton Rat

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Secure (G5T2T3) /Imperiled, Vulnerable (S2S3)

The Yuma hispid cotton rat inhabits agricultural lands and riparian habitats. Found mostly near the Colorado River or along sloughs adjacent to the river in brushy or weedy areas. Most common in marshes, but also in cottonwood-willow, screwbean mesquite, saltcedar, and saltcedar-honey mesquite associates. Also in frequently irrigated fields of Bermuda grass.

The Yuma hispid cotton rat is not likely to occur within the project sites, because the preferred habitat does not exist within the project area. The Yuma hispid cotton rat is primarily found near the Colorado River in riparian habitats and agricultural lands.

American Badger

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Secure (G5)/ Vulnerable (S3)

American badger is found in relatively dry grasslands, sagebrush meadows, valleys, and open forests. Prefers open areas with little groundcover, and enough soil to dig in. Occupies underground burrows

when inactive. Elevation range from sea level to 3,600 meters. Suitable habitat for the American badger exists in the project area, however, no badger dens or evidence of badger was observed during focused surveys, so this species is considered absent.

Reptiles and Amphibians

The CNDDB literature review process identified the following species known to occur within a ten-mile search radius: the barefoot gecko (*Coleonyx switaki*), lowland leopard frog, flat-tailed horned lizard, and Colorado Desert fringe-toed lizard. Of those species identified through the CNDDB literature search, none have the potential to occur within the project area. Those species in which suitable habitat is present are detailed below, however, these species are considered absent since they were not detected during focused surveys.

Barefoot gecko

Federal Status: None State Status: Threatened

CNDDB Element Ranking System: Apparently Secure (G4)/ Critically Imperiled (S1)

Barefoot gecko inhabits arid rocky areas on flatlands, canyons and desert foothills. Prefers areas with large boulders and rock outcrops, with sparse vegetation. Elevation range up to 2,000+ feet (700 meters).

The barefoot gecko, a state of California threatened species, is not likely to occur on the project sites due to lack of habitat. The barefoot gecko inhabits areas with large boulders and rocky outcrops, with sparse vegetation; in arid regions on flatlands, canyons and desert foothills.

Lowland Leopard Frog

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Apparently Secure (G4)/Extirpated (SX)

The lowland leopard frog inhabits rivers, streams, cattle tanks, agricultural canals, ditches, river side channels, springs, ponds and other aquatic systems, which are absent on the project sites. Lowland leopard frog is unlikely to occur on the project sites.

Flat-tailed Horned Lizard

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Vulnerable (G3)/Imperiled (S2)

Inhabits sandy desert hardpan and gravel flats with scattered sparse vegetation of low species diversity. Most common in areas of fine windblown sand, but rarely occurs on dunes. Favorable habitat may include creosote bush, bur-sage, indigo bush, saltbush, ocotillo, and salt cedar. Flat-tailed horned lizard was not observed on the project sites.

Based on the results of the habitat assessment, focused surveys were conducted for flat-tailed horned lizard during the spring of 2015. The FTHL surveys focused on finding horned lizards along with both scat and potential tracks. The FTHL surveys were conducted from April through June when air temperatures were between 25 and 37 °C (75 and 100 °F). Four site visits were included for the FTHL surveys and each site visit lasted for over four to eight hours. The FTHL surveys started when temperatures were within the above mentioned thermal zone. During the survey, the surveyors searched for various indicators of potential presence for these species including horned lizard scat and tracks. Biologists recorded all types of lizards observed. Surveys were conducted in all portions of the project sites and buffer areas that were identified in the habitat assessment.

The field results were negative for flat-tailed horned lizards. No flat-tailed horned lizards were observed during the survey effort and no horned lizard scat was observed.

Colorado Desert Fringe-Toed Lizard

Federal Status: None State Status: CSC

CNDDB Element Ranking System: Vulnerable (G3)/Imperiled (S2)

Habitat includes arid areas of sparse vegetation and fine wind-blown sand; including dunes, washes, river banks, and flats with sandy mounds around the base of vegetation. Requires fine, loose sand for burrowing. Colorado Desert fringe-toed lizard is considered absent since they were not detected during surveys.

Fish

No sensitive fish species were found within the 10-mile CNDDB search radius, and no viable waterways are present within the project area that might support sensitive fish species.

4.4.1.2.2 Botanical Species

The CNDDB literature review identified several sensitive plant species that have the potential to occur in the area. Based on the vegetation communities on site and in the surrounding area, and the elevation and general location of the site, the following species have been identified as having the potential to occur within the project sites, but they are considered absent since they were not observed during focused surveys:

- Chaparral sand-verbena (Abronia villosa var. aurita)
- Salton milk-vetch (Astragalus crotalariae)
- Gravel milk-vetch (Astragalus sabulonum)
- Abrams' spurge/Abrams' sandmat (Euphorbia abramsiana/Chamaesyce abramsiana)
- California satintail (Imperata brevifolia)
- Copper rush (Juncus cooperi)
- Mud nama (Nama stenocarpum)
- Roughstalk witch-grass (Panicum hirticaule var. hirticaule)
- Desert unicorn-plant (Proboscidea althaeifolia)
- Dwarf Germander (Teucrium cubense ssp. depressum)

Many of the rare plants species within the CNDDB literature review search have a low potential of occurring because they are associated with areas of sand dunes within the Imperial Valley. The project sites are generally suitable for some of the suspected rare plants, but because the project area has been altered by periodic natural and anthropogenic over-flooding, much of the soils/biota have been rendered limited for supporting upland-dwelling rare plant taxa.

Based on the results of the habitat assessment, focused surveys were conducted for rare plants during the spring of 2015. Botanical surveys were conducted on March 10th and 11th, 2015, to detect sensitive plant species, identify all vascular plants, and determine the number of special status plants. The project sites were found to have very low plant diversity, with widely spaced shrubs and little evidence of spring annuals. The sites lack potential for most rare plant species to occur, with the exception of a few summer annuals. Mediterranean splitgrass (*Schismus barbatus*) was the only annual observed on natural soils; all other annual species were restricted to the concrete lined irrigation ditch. All plants that could appear in the spring were accounted for, including past skeletons. No follow up botanical surveys are recommended.

4.4.1.2.5 Riparian Habitat or Sensitive Natural Communities

Sensitive vegetation communities are those that are considered rare or sensitive based on the level of disturbance or habitat conversion within their range. A high level of disturbance or habitat conversion within the range could convert the status of vegetative communities to rare or sensitive. Wetland or riparian habitat communities are considered sensitive by CDFW. No riparian habitat or sensitive natural communities were observed on the project sites.

4.4.1.2.6 Jurisdictional Waters

Army Corps of Engineers Jurisdiction

The U.S. Army Corps of Engineers (USACE) has jurisdiction over wetlands and other "waters of the United States" that are subject to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. Typically, these waters include naturally occurring traditional navigable waters (TNWs), relatively permanent waters (RPWs), and/or ephemeral waters with a significant nexus to a TNW. Manmade drainages constructed wholly in uplands are typically only considered jurisdictional if they are RPWs. The most recent guidance on the topic states that "relatively permanent waters typically flow year-round or have continuous flow at least seasonally (e.g., typically three months)." Conversely, man-made drainages constructed solely in uplands that are not RPWs are generally not federally jurisdictional.

Federally regulated wetlands are identified based on the Wetlands Delineation Manual and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Three criteria must be fulfilled in order to classify an area as a wetland under the jurisdiction of the USACE: 1) a predominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) the presence of wetland hydrology. Areas meeting all three parameters would be designated as USACE wetlands. According to the jurisdictional delineation conducted on the project sites, no wetlands were identified in the study area based of the absence of hydric soil indicators and lack of hydrophytic vegetation.

With respect to non-tidal waters, federal jurisdiction over non-wetlands extends to the "Ordinary High Water Mark" (OHWM) [33 C.F.R. § 328.4(c)(1)]. The Ordinary High Water (OHW) zone in low gradient, alluvial ephemeral/intermittent channel forms in the Arid West is defined as the active floodplain. The dynamics of arid channel forms and the transitory nature of traditional OHWM indicators in arid environments render the limit of the active floodplain the only reliable and repeatable feature in terms of OHW zone delineation. The extent of flood model outputs for effective discharges (5 to 10 year events in arid channels) aligns well with the boundaries of the active floodplain.

Lateral jurisdictional limits were established for all drainage features/channels occurring within the project survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits.

Based on the results of the jurisdictional delineation conducted by Phoenix Biological Consulting and federal guidance outlined above, all waters delineated within the survey area are determined to be isolated waters and thus not regulated by the USACE. The basis for this finding is as follows:

- All ephemeral washes identified in the field survey flow for less than three (3) months per year, and would therefore be classified as non-RPW by the USACE;
- These ephemeral washes do not have a downstream outlet;
- As non-RPWs, these ephemeral washes have no downstream connectivity to a TNW, and no nexus to interstate or foreign commerce; and
- As non-RPWs, these ephemeral washes are not an (a)(3) water, and do not meet any of the i-iii
 criteria (no recreation or interstate commerce related to fisheries or industry).

The U.S. Army Corps of Engineers (USACE) reviewed the jurisdictional delineation report for the proposed project and conducted a site visit on August 26, 2015. Based on this review, the USACE has concluded that the project sites do not contain waters of the U.S. pursuant to 33 CFR Part 325.9 (Department of the Army, Los Angeles District, U.S. Army Corps of Engineers. August 31, 2015. Personal communication from Department of the Army to Freeman Hall).

California Department of Fish and Wildlife Jurisdiction

The California Department of Fish and Wildlife (CDFW) generally takes jurisdiction over all stream features, including drains and canals. The CDFW's jurisdiction extends from the top of bank to the opposite top of bank on these features, or to the limits of riparian vegetation if this vegetation extends beyond the top of the banks. Wetlands need to meet only one of the three USACE criteria (wetland vegetation, wetland hydrology, and/or hydric soils) to be considered CDFW jurisdictional wetlands. Under Section 1600 of the California Fish and Game Code, CDFW's jurisdiction includes "...bed, channel or bank of any river, stream or lake designated by the department in which there is any time an existing fish or wildlife resource or from which these resources derive benefit..." Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation or stream dependent terrestrial benefit.

Five ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the DWSF site. These areas are identified as S1, S2, S3, S4, and S5 in Figure 4.4-3. There are no jurisdictional drainages present within DESF. The size and location of each ephemeral wash is further described below.

S1

This unmapped, unnamed ephemeral wash (131 linear feet, 0.09 acres) is located along the eastern boundary of DWSF. It flows from west to east with no discernible outlet. The topography is level. The soils and topography suggest that, when inundated with water, it is stagnant. This drainage has a high clay content and evidence of cracked clay soils were observed. Changes in soil texture and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush, Creosote scrub, and Alkali goldenbush (*Isocoma acradenia*).

S2 (S2.1, S2.2, S2.3)

This unmapped, unnamed ephemeral wash (348 linear feet, 0.096 acres) is located along the northeastern quadrant of DWSF. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded along the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush, Creosote scrub and Alkali goldenbush.

S3

This unmapped, unnamed ephemeral wash (154 linear feet, 0.067 acres) is located along the central portion of DWSF. It flows from west to east with no discernible outlet. The topography has a slight easterly aspect and it is the drop in elevation that has created this feature. Most likely the drainage is active during monsoon events and is fed by sheet flow. The soils are sandy throughout the drainage. Litter deposition, scour marks and shelving were observed along the drainage. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes Creosote scrub.

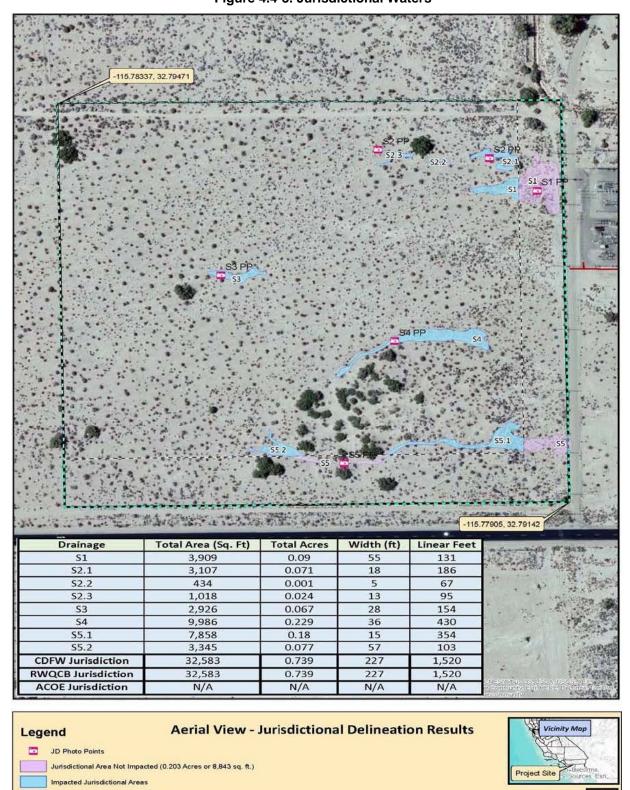


Figure 4.4-3. Jurisdictional Waters

Produced by Phoenix Blooglear Consulting, 2015 Source: ESRI ArcGIS, Imperial County Parcel Data, SEPV Disceland APN # 034-390-026 051-047-001 051-047-002 051-035-002 051-035-001

S4

This unmapped, unnamed ephemeral wash (430 linear feet, 0.229 acres) is located along the southeast quadrant of DWSF. It flows from west to east with no discernible outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded near the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush, Creosote scrub and Alkali goldenbush.

S5 (S5.1 & S5.2)

This unmapped, unnamed ephemeral wash (457 linear feet, 0.257 acres) is located along the southern boundary of DWSF. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded near the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush, Creosote scrub and Alkali goldenbush.

4.4.1.2.7 Wildlife Corridors and Habitat Connectivity

The concept of wildlife corridors incorporates the idea of linking together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, human disturbance, or encroachment of urban development. The fragmentation of open space by urbanization creates isolated 'islands' of wildlife habitat which can adversely impact genetic and species diversity by restricting the movement, gene flow, and mating potential of wildlife. Wildlife corridors help mitigate the effects of this fragmentation by allowing movement between habitats, promoting genetic exchange, providing escape routes from fire, predators, and human disturbance, and serving as travel paths for animals that require larger home ranges.

Wildlife corridors can exist along drainages, ridgelines, open spaces and utility corridors. The project area is adjacent to open access BLM land to the west and Westside Main Canal to the east; both providing adequate wildlife corridors.

4.4.1.2.8 California Desert Conservation Area

Areas of Critical Environmental Concern (ACEC) are limited use areas designated and managed by the BLM to protect sensitive biological, historical, and cultural resources; natural process or systems; and/or natural hazards. The Yuha Basin and West Mesa are nearby ACECs that primarily consist of undeveloped open space and are designated as limited use areas to protect sensitive biological and cultural resources; specifically archaeological sites and flat-tailed horned lizard habitat. The Yuha Basin is located approximately two miles southwest of the project area and West Mesa is located approximately 7.5 miles northwest of the project area is not within and does not border a designated ACEC.

4.4.1.2.9 Audobon Important Bird Areas

Audobon Important Bird Areas (IBAs) are areas designated by scientists as critically important because they provide habitat during breeding, wintering, and migrating seasons, for endangered birds, birds with

small or limited ranges, or birds that congregate in high numbers. The projects are located within the Imperial Valley IBA.

4.4.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to biological resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.4.2.1 Thresholds of Significance

Based on California Environmental Quality Act (CEQA) Guidelines Appendix G, project impacts related to biological resources are considered significant if any of the following occur:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW and USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.2.2 Methodology

This analysis evaluates the potential for the projects, as described in Chapter 3, Project Description, to interact with local biological resources in the project area. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, Phoenix Biological Consulting prepared a BTR and Jurisdictional Delineation which covered the DESF and DWSF sites. The BTR and Jurisdictional Delineation are included in Appendix E of this EIR. The information obtained from these sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with biological resources that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities. Conceptual site plans for the project were also used to evaluate potential impacts. These conceptual exhibits are provided in Figures 3-5 and 3-7.

4.4.2.3 Impact Analysis

IMPACT 4.4-1

Possible Habitat Modification.

The construction and operation of the proposed projects within the project area could result in the indirect or direct habitat alteration on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or the CDFW or USFWS.

Impact to Vegetation Communities

DESF and DWSF

The habitat types identified on the project sites consist of creosote scrub, mesquite, ruderal habitat, and salt cedar. These habitat communities are not considered sensitive. Therefore, no impact is identified to sensitive vegetation communities.

Impact to Special Status Species

Special Status and Priority Plants

Dixieland East Solar Farm and Dixieland West Solar Farm

The CNDDB literature review identified several sensitive plant species that have the potential to occur in the area. Many of the rare plants species within the CNDDB literature review search have a low potential of occurring because they are associated with areas of sand dunes within the Imperial Valley. The project sites are generally suitable for some of the suspected rare plants, but because the project area has been altered by periodic natural and anthropogenic over-flooding, much of the soils/biota have been rendered limited for supporting upland-dwelling rare plant taxa. Furthermore, no sensitive plant species were observed on the project sites during focused surveys. Therefore, the proposed projects would have no impact to special status plant species.

Impacts to Sensitive Wildlife

Burrowing Owl

Construction Impacts

The CDFW Staff Report on Burrowing Owl (2012) lists impacts to burrowing owl as:

- Disturbance within 160 feet (September through January non-nesting season) or within 250 feet (February through August nesting season) of active burrows.
- Destruction of active burrows.
- Destruction/degradation of forage within 300-feet of active burrows.

Direct Impacts

Dixieland East Solar Farm and Dixieland West Solar Farm

The field results were negative for burrowing owls. During the field effort, nine coyote burrows were observed within the DWSF site. One coyote burrow was observed immediately north of the DWSF site (Figure 4.4-2). All of the burrows were absent of owl sign and appeared to be inactive and some appear to have been canid forage holes. Although no sign of burrowing owls were detected on the project sites during field surveys, burrowing owls have the potential to migrate onto the sites during construction. Because burrowing owl typically use burrows excavated by other animals, the coyote burrows could

potentially be occupied by burrowing owl during construction. A pre-construction survey should be conducted prior to grading, as the number and location of owls may change from year to year. Direct impacts to any burrowing owl individuals and/or active burrowing owl burrows within the project sites to be graded would be considered **potentially significant**, and mitigation in the form of avoidance and impact minimization would be required to reduce the impacts to a level of **less than significant**. Similar measures would be required for any future decommissioning, restoration activities that may occur at the end of the life of the projects.

Indirect Impacts

Noise and vibrations from construction equipment may disturb or disrupt burrowing owl nesting behavior if construction takes place within 250 feet of an active burrow during breeding season for the burrowing owl. These impacts would be considered a **significant impact** and mitigation would be required to minimize and/or avoid these impacts. Implementation of these measures would reduce the impact to a level **less than significant**. Similar measures would be required for any future decommissioning, restoration activities that may occur at the end of the currently anticipated 20 year life of the projects.

Operation Impacts

Direct impacts to burrowing owls may occur during O&M activities within the solar fields. Vehicles driving on access roads where burrowing owls are foraging may result in the direct mortality, injury, or harassment of this species. These impacts would be considered a **significant impact** and mitigation would be required. Mitigation Measure BR-2 requires preparation of a Worker Environmental Awareness Program (WEAP) and Mitigation Measure BR-3 requires that construction vehicles maintain a speed limit of 15 miles while driving on access roads. Implementation of these mitigation measures would reduce impacts to burrowing owls from O&M activities to **less than significant**.

After the solar fields are constructed, burrowing owls are expected to forage within the areas underneath the solar panels and within the solar facilities that provide foraging opportunities. While searching for prey, burrowing owls characteristically hover for periods of several minutes at heights of 8-15 meters (Coulumbe 1971). During the night the foraging behavior changes to suit the reduced visibility of small food items; they may pursue arthropods on the ground by walking and running. They also may glide about one meter above the ground when foraging for rodents (Coulumbe 1971). Given the static and highly visible nature of the solar panels, burrowing owls are not expected to collide with the structures during daytime foraging activities when they may be hovering or flying in search for prey. When foraging at night, they are not expected to collide with facility structures given their walking/hopping manner of foraging, coupled with the static and highly visible nature of the solar panels. **No impacts** to burrowing owl are anticipated due to collision with facility structures, and no mitigation would be required.

All permanent lighting within the solar field will be by low-profile fixtures that point inward toward the solar field with directional hoods or shades to reduce light from shining into the adjacent lands. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. No significant impacts due to lighting are expected to occur to this species, and no mitigation is required. No equipment or component of the solar field is expected to produce noise that would exceed ambient noise in the vicinity. **No significant impacts** due to noise are expected to occur to this species, and no mitigation is required.

Colorado Valley Woodrat

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction Impacts

The CNDDB literature review process identified the western yellow bat (Lasiurus xanthinus), Colorado Valley woodrat, Yuma hispid cotton rat (Sigmodon hispidus eremicus), and American badger within the

4.4-20

CNDDB ten-mile search radius. Of those mammal species, the Colorado Valley woodrat has potential to occur in the project area.

Colorado Valley woodrat was not observed on the project sites during field investigations. However, den building materials are present on the project sites among the mesquite and tamarisk trees. Therefore, this species has the potential to occur on the project sites. If present on the project sites, construction activities such as site clearing and any possible grading activities has the potential to impact Colorado Valley woodrat. Impacts are considered **potentially significant** in the absence of mitigation. Implementation of Mitigation Measure BR-4 would reduce construction impacts to **less than significant**. Similar measures would be required for any future decommissioning, restoration activities that may occur at the end of the currently anticipated 20-year life of the projects.

Operation Impacts

General operation related activities, such as equipment inspection and/or repairs, solar panel washing, and site security are expected to result in minimal noise and therefore, would not result in disturbance to the Colorado Valley woodrat. As a result, a **less than significant** impact is identified for this issue area.

Migratory Birds and Other Sensitive Non-Migratory Bird Species

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction Impacts

The vegetation habitat within and adjacent to the project sites is suitable for providing nesting opportunities for avian species as evidenced in the red-tailed hawk nest observed immediately northeast of DWSF. The nest is located approximately 270 feet from the northeast corner of the DWF fence line (see Figure 4.4-2). Two hawk nestlings were observed in the nest during field investigations of the project sites. If nesting raptors are found within the project area, during construction, impacts to this issue area would be considered **potentially significant** and mitigation would be required in order to reduce the impact to a level less than significant. Implementation of Mitigation Measures BR-5 and BR-6 would reduce impacts to nesting birds during construction to **less than significant**.

Operations and Maintenance Impacts

Electrocution

All electrical components within the solar projects shall be either undergrounded or protected so that there will be no exposure to wildlife and therefore no potential for electrocution. The gen-tie line would be constructed in such a manner that energized components do not present an opportunity for "skin to skin" or wing span contact. However, the Avian Powerline Interaction Committee's (APLIC) 1996 report on power line electrocution in the United States reports that avian electrocution risk is highest along distribution lines (generally less than 69 kV) where the distance between energized phases, ground wires, transformers, and other components of an electrical distribution system are less than the length or skinto-skin contact distance of birds. The distance between energized components along transmission lines (>69 kV) is generally insufficient to present avian electrocution risk. No impact to raptors is anticipated to occur due to electrocution along the proposed gen-tie line. Therefore, no mitigation would be required. However, a potentially significant impact may occur to avian mortality during O&M activities along the gen-tie line. Therefore, an Avian and Bat Protection Plan (ABPP) will be developed that will incorporate guidance from USFWS (2010e) and the Avian Powerline Interaction Committee (APLIC 2006), and will include a wildlife mortality reporting program. Mitigation Measure BR-5, specifically the ABPP, will provide the project applicant the vehicle to comply with the Bald and Golden Eagle Protection Act as well as the MBTA. Implementation of that mitigation measure would reduce impacts to less than significant.

Mitigation Measure(s)

Burrowing Owls

The following mitigation measures are required for DESF and DWSF.

- **BR-1 Burrowing Owl Mitigation**. The following measures will avoid, minimize, or mitigate potential impacts to burrowing owl during construction activities:
 - 1. Within 30 days prior to initiation of construction, pre-construction clearance surveys for burrowing owl shall be conducted by qualified and agency-approved biologists to determine the presence or absence of this species within the project footprint. This is necessary, as burrowing owls may not use the same burrow every year; therefore, numbers and locations of burrowing owl burrows at the time of construction may differ from the data collected during previous focused surveys. The proposed project footprint shall be clearly demarcated in the field by the project engineers and biologist prior to the commencement of the pre-construction clearance survey. The surveys shall follow the protocols provided in the Burrowing Owl Survey Protocol and Mitigation Guidelines.
 - 2. If active burrows are present within the project footprint, the following mitigation measures shall be implemented. Passive relocation methods are to be used by the biological monitors to move the owls out of the impact zone. Passive relocation shall only be done in the non-breeding season 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. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. The burrows shall then be excavated and filled in to prevent their reuse. The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts. The construction of new burrows will take place within open areas in the solar fields such as detention basins.
 - 3. As the project construction schedule and details are finalized, an agency-approved biologist shall prepare a Burrowing Owl Mitigation and Monitoring Plan that will detail the approved, site-specific methodology proposed to minimize and mitigate impacts to 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 the CDFW. The Mitigation and Monitoring Plan shall include success criteria, remedial measures, and an annual report to CDFW and shall be funded by the project applicant to ensure long-term management and monitoring of the protected lands.
- **BR-2 Worker Awareness Program.** Prior to project initiation, a Worker Environmental Awareness Program (WEAP) 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 the burrowing owl;
 - CDFW/USFWS regulations;

- Protection measures designed to reduce potential impacts to the species, function of flagging designated authorized work areas;
- Reporting procedures to be used if a burrowing owl (dead, alive, injured) is encountered in the field.
- **BR-3 Speed Limit.** 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 when driving access roads. All vehicles required for O&M must remain on designated access/maintenance roads.

Colorado Valley Woodrat

The following mitigation measures are required for DESF and DWSF.

BR-4 Temporary Construction Suspension. During the clearing and grubbing of the project sites, a Designated Biological Monitor shall be present to relocate and remove any potential sensitive species that may have been unaccounted for during focused surveys and habitat assessment. Construction shall cease until sensitive species have been relocated from the project sites.

Migratory Birds and Other Sensitive Non-Migratory Bird Species

The following mitigation measures are required for DESF and DWSF.

BR-5 Construction and O&M Mitigation Measures. In order to reduce the potential indirect impact to migratory birds, bats and raptors, an Avian Bat Protection Plan ABPP shall be prepared following the USFWS's guidelines and implemented by the project applicant. This ABPP shall outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations and shall be developed by the project applicant in conjunction with and input from the USFWS.

Construction conservation measures to be incorporated into the ABPP include:

- 1. Minimizing disturbance to vegetation to the extent practicable.
- 2. Clearing vegetation outside of the breeding season. If construction occurs between February 1 and September 15, an approved biologist shall conduct a preconstruction clearance survey for nesting birds in suitable nesting habitat that occurs within the project footprint. Pre-construction nesting surveys will identify any active migratory birds (and other sensitive non-migratory birds) nests. If a nesting bird is detected, the area will be avoided and a 100-foot buffer will be installed until the nesting birds have fledged and have been observed to be foraging independently. In the event the red-tail hawk nest is active, a 300-foot buffer shall be installed around the hawk nest until the birds are observed to be foraging independently. Direct impact to any active migratory bird nest should be avoided.
- 3. Minimize wildfire potential.
- 4. Minimize activities that attract prey and predators.
- 5. Control of non-native plants.

O&M conservation measures to be incorporated into the ABPP include:

 Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with transmission facilities (APLIC 2006).

- 2. Minimize noise.
- 3. Minimize use of outdoor lighting.
- Implement post-construction avian monitoring that will incorporate of the Wildlife Mortality Reporting Program.

BR-6 Raptor and Active Raptor Nest Avoidance. Raptors and active raptor nests are protected under CFGC 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures shall be implemented:

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 or transmission towers) that occurs within 300 feet of the site. If any active raptor nest is located, the nest area will be flagged, and a 300-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until a qualified biologist determines that the fledglings are independent of the nest.

Significance After Mitigation

The implementation of Mitigation Measures 4.4-1a through 4.4-1d would reduce impacts to burrowing owls to a level **less than significant**. Implementation of Mitigation Measure 4.4-1e would reduce the potential impact to mountain plover, long billed curlew, short billed dowitcher, horned lark, and loggerhead shrike to levels **less than significant**. Mitigation Measures 4.4-1f and 4.4-1g would reduce impacts to migratory and non-migratory birds and nesting raptors to levels **less than significant**.

IMPACT 4.4-2

Possible Impact to Riparian Habitats or Other Sensitive Natural Communities.

Construction and operation of the proposed projects within the project sites would not impact riparian or other sensitive natural communities identified in local or regional plans, policies, regulations, or by the CDFW and USFWS.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites contain creosote scrub, mesquite, tamarisk thicket, and ruderal vegetation communities. These vegetation communities are not considered riparian or sensitive natural communities. Therefore, no impacts are identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.4-3

Possible Impact to Wetlands.

Construction and operation of the proposed projects within the project sites would not impact jurisdictional resources as defined by Section 404 of the CWA (including, but not limited to: marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Dixieland East Solar Farm

Based on the results of the jurisdictional delineation conducted by Phoenix Biological Consulting, there are no potential USACE, CDFW, or RWQCB jurisdictional resources within the DESF project site. Therefore, no jurisdictional resources will be directly affected with implementation of the DESF project and **no impact** is identified.

Dixieland West Solar Farm

Based on the results of the jurisdictional delineation conducted by Phoenix Biological Consulting, there are no potential USACE jurisdictional resources within the DWSF project site that would be directly affected with implementation of the DWSF project. However, implementation of the DWSF project would result in the potential permanent impact to 0.739 acres or 1,520 linear feet of potential CDFW and RWQCB jurisdictional resources (Table 4.4-3). This is considered a **potentially significant impact** and would require mitigation. **[Applicant is currently consulting with agencies to verify jurisdiction]**

TABLE 4.4-3. POTENTIALLY JURISDICTIONAL RESOURCES IMPACTS

					Permanent Impacts	
Water ID	Total Area (sf)	Total Acres	Width	Linear Feet	Impact Area (acres)	Impact Length (feet)
S1	3,909	0.09	55	131	0.09	131
S2.1	3,107	0.071	18	186	0.071	186
S2.2	434	0.001	5	67	0.001	67
S2.3	1,018	0.024	13	95	0.024	95
S3	2,926	0.067	28	154	0.067	154
S4	9,986	0.229	36	430	0.229	430
S5.1	7,858	0.18	15	354	0.18	354
S5.2	3,345	0.077	57	103	0.077	103
Total	32,583	0.739	227	1,520	0.739	1,520

Source: Phoenix Biological Consulting 2015

Mitigation Measure(s)

BR-7 Burrowing Owl Mitigation.

IMPACT 4.4-4

Possible Impact to Wildlife Movement and Nursery Sites.

Construction and operation of the proposed projects within the project area would not interfere substantially with the movement of any 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.

Dixieland East Solar Farm and Dixieland West Solar Farm

Wildlife corridors can exist along drainages, ridgelines, open spaces and utility corridors. The project area is adjacent to open access BLM land to the west and Westside Main Canal to the east; both providing adequate wildlife corridors. However, **no impact** to habitat connectivity is anticipated, due to the fact that the surrounding BLM lands and the nearby irrigation canals, which serve as wildlife corridors, will remain intact.

The projects' ABPP will also ensure that movement and corridor uses to avian species will not be impacted by the proposed projects (Mitigation Measure BR-5). Thus, there are no anticipated impacts to wildlife movement or nursery sites, and no additional mitigation would be required. Therefore, impacts identified for this issue area are **less than significant**.

Mitigation Measure(s)

No mitigation measures are required beyond those previously identified in this section for raptors (Mitigation Measure BR-5).

Significance After Mitigation

With the implementation of the mitigation measure previously identified for raptors (Mitigation Measure BR-5), impacts to wildlife movement would be reduced to **less than significant.**

IMPACT Possible Conflict with Policies Protecting Biological Resources.

4.4-5 The projects do not conflict with local policies, such as a tree preservation policy, or ordinances.

Dixieland East Solar Farm and Dixieland West Solar Farm

The BLM manages all land uses within the ACEC to protect sensitive biological, historical, and cultural resources; natural process or systems; and/or natural hazards. As previously indicated, the Yuha Basin ACEC is located approximately two miles southwest of the project area and the West Mesa ACEC is located approximately 7.5 miles northwest of the project area. The project sites are not within and do not border a designated ACEC. Therefore, the proposed projects would not conflict with biological resources policies contained in the California Desert Conservation Area Plan.

The projects consist of the construction and operation of solar energy facilities. Development of the solar facilities is subject to the County's zoning ordinance. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-2 zone, subject to securing a Conditional Use Permit (CUP). As demonstrated in Table 4.4-1, with implementation of CUPs, the projects would be consistent with Imperial County General Plan biological resources policies. Therefore, **no impacts** are identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Possible Conflict with Local Conservation Plan(s).

Construction and operation of the proposed projects within the project area does not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites are not located in a Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. **No impact** is identified.

4.4-26

Mitigation Measure(s)

No mitigation measures are required.

4.4.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning activities will require construction vehicles to drive across the solar farms and access roads, which could result in ground disturbance and transportation of invasive weeds. Mitigation measures required to reduce potential impacts to sensitive wildlife species would be applicable during the decommissioning phase of the project as well as including the following Mitigation Measures: BR-1 through BR-6, and would reduce this impact to a level **less than significant**.

Residual

The implementation of Mitigation Measures BR-1 through BR-3 would reduce impacts to burrowing owls to a level less than significant. Implementation of Mitigation Measure BR-4 would reduce the potential impact to Colorado Valley woodrat to a level less than significant. Mitigation Measures BR-5 and BR-6 would reduce impacts to migratory and non-migratory birds and nesting raptors to levels less than significant. The projects would not result in residual significant and unmitigable impacts related to biological resources.

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4.5 CULTURAL RESOURCES

This section discusses cultural resources that may be impacted by the proposed projects. The following identifies the existing cultural resources in the project area, analyzes potential impacts due to the implementation of the proposed projects, and recommends mitigation measures to avoid or reduce potential impacts of the proposed projects. Information for this section is summarized from the *Cultural Resources Assessment and Archaeological Test Excavations* prepared by BCR Consulting LLC. This report includes a cultural resources records search, pedestrian field survey, archaeological test excavations, Native American consultation, and vertebrate paleontological resources overview which have been completed for the project sites pursuant to the California Environmental Quality Act (CEQA). This report is included in Appendix F of this Environmental Impact Report (EIR).

4.5.1 Environmental Setting

The project area is located in the Imperial Valley Area of the Colorado Desert. The elevation of the project sites ranges from approximately 15 to 35 feet above mean sea level. The region is characterized by an arid climate with dry, hot summers and mild winters. The project sites occupy the former western shoreline of prehistoric Lake Cahuilla, and at a depth the lake would have exhibited salinity levels suitable to sustain a variety of fish used by prehistoric human population. Lake Cahuilla is now partially occupied by the artificially created Salton Sea. Lake Cahuilla was formed by periodic prehistoric natural diversion of the Colorado River. Many lakes (now dry) in the Colorado Desert are thought to have supported small human populations during the terminal Pleistocene (22,000-11,000 years before present) and early Holocene (11,000-8,000 years before present). Since the desiccation of California's deserts during the later Holocene, local lakes have dried and significant sand dunes have formed.

The County of Imperial is rich in cultural resources and within the county, archaeological work can be separated into two distinct sections: prehistoric and historic. All prehistoric archaeology deals with the native culture and systems which existed prior to Spanish colonization in 1769. Historical archaeology deals with uncovering facts that no known historical documentation has provided (Imperial County Planning and Development 1993).

Thousands of prehistoric (aboriginal culture and systems existing prior to 1769) and hundreds of historic (uncovered facts containing no known historical documentation) are found throughout Imperial County. Prehistoric evidence in the form of trails, rock art, geoglyphs, fish traps, and resource procurement and manufacturing locations are found in the regions surrounding the fertile valley portion of the county. From a historical standpoint, the intensive use of Imperial Valley for irrigation agriculture since the beginning of the 1900s has impacted any resources that may have existed on land that is now farmland or under the Salton Sea. Historic resource sites date back to 1540, when the Hernando de Alcaron Expedition discovered Alta California from near the intersection of Interstate 8 and Highway 186. The next major historical event occurred in 1775 when Juan Bautista de Anza first passed through the area. The Anza Trail itself constitutes a significant cultural resource in the Yuha Desert, as does the later Sonoran/Southern Emigrant Trail which served as a major route to and from coastal California from 1825 to 1865. Although very few structures or artifacts may remain from the use of these trails, the routes themselves are of historical significance. Various other structures, such as missions (Spanish period 1769-1821) and a fort (Mexican period 1821-1848) are still evident in regions throughout the county (Imperial County Planning and Development, 1993).

4.5.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

National Historic Preservation Act (NHPA). Federal regulations (36 CFR Part 800.2) define historic properties as "any prehistoric or historic district, site, building, structure, or object included, or eligible for inclusion in, in the NRHP." Section 106 of the NHPA (Public Law 89-665; 80 Stat 915; USC 470, as amended) requires a federal agency with jurisdiction over a project to take into account the effect of the project on properties included in or eligible for the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The term "cultural resource" is used to denote a historic or prehistoric district, site, building, structure, or object, regardless of whether it is eligible for the NRHP.

Native American Graves Protection and Repatriation Act (1990); Title 25, United States Code (USC) Section 3001, et seq. The statute defines "cultural items," "sacred objects," and "objects of cultural patrimony;" establishes an ownership hierarchy; provides for review; allows excavation of human remains, but stipulates return of the remains according to ownership; sets penalties; calls for inventories; and provides for the return of specified cultural items.

State

State Office of Historic Preservation (OHP). The OHP administers state and federal historic preservation programs and provides technical assistance to federal, state, and local government agencies, organizations, and the general public with regard to historic preservation programs designed to identify, evaluate, register, and protect California's historic resources.

Section 15064.5 of the State California Environmental Quality Act (CEQA) Guidelines also requires that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to museums, historical commissions, associations and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (Health and Safety Code [HSC] Section 7050.5, PRC Sections 5097.94 et seq.).

Assembly Bill (AB) 52 amends Public Resource Code (PRC) 5097.94, and adds eight new sections to the PRC relating to Native Americans. AB 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental resource that must be considered under CEQA called tribal cultural resources (PRC 21074) and establishes a process for consulting with Native American tribes and groups regarding those resources. Under AB 52, a project that may substantially change the significance of a tribal cultural resource is a project that may have a significant impact on the environment. If a project may cause a significant impact on a tribal cultural resource, the lead agency shall implement measures to avoid the impacts when feasible. Environmental documents must incorporate a discussion of the impacts, mitigation measures, and notification and consultation conducted with tribes affiliated with the geographic area.

Public Resources Code (PRC) Section 21074 defines a tribal cultural resource as a site, feature, place, cultural landscape, sacred place, and any object with cultural value to a California Native American Tribe (CNAT). A tribal cultural resource must be on or eligible for the California Register of Historical Resources (CRHR) or must be included in a local register of historical resources. The lead agency can determine if a tribal cultural resource is significant even if it has not ben evaluated for the CRHR or is not included on a local register.

Assembly Bill (AB) 4239 established the Native American Heritage Commission (NAHC) as the primary government agency responsible for identifying and cataloging Native American cultural resources. The bill authorized the Commission to act in order to prevent damage to and insure Native American access to sacred sites and authorized the Commission to prepare an inventory of Native American sacred sites located on public lands.

Public Resources Code 5097.97. No public agency and no private party using or occupying public property or operating on public property under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the *United States Constitution* and the *California Constitution*; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

Public Resources Code 5097.98 (b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the NAHC-identified Most Likely Descendants (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to reenter the remains elsewhere on the property in a location not subject to further disturbance.

California Health and Safety Code, Section 7050.5. This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the County Coroner.

Local

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. The Open Space Element of the General Plan includes goals, objectives, and policies for the protection of cultural resources and scientific sites that emphasize identification, documentation, and protection of cultural resources. While Section 4.10, Land Use and Planning of this EIR analyzes the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors and Planning Commission ultimately make a determination as to the project's consistency with the *General Plan*. Goals and Objectives applicable to the proposed projects are summarized in Table 4.5-1.

TABLE 4.5-1. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN CULTURAL RESOURCES
GOALS AND OBJECTIVES

General Plan Goal/Objective	Consistency with General Plan	Analysis
Goal 3: Important prehistoric and historic resources shall be preserved to advance scientific knowledge and maintain the traditional historic element of the Imperial Valley landscape.	Consistent	The proposed solar farms will not impact any important prehistoric or historic resources.
Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	The proposed projects are considered sensitive for buried cultural resources due to the high number of resources recorded in the vicinity. An archaeological monitor will be present during all ground-disturbing activities associated with the project sites in native soils. If any cultural resource is found, the monitor will halt or redirect construction work.

4.5.1.2 Existing Conditions

Cultural Setting

The project sites are located in an unincorporated portion of Imperial County, California. The project occupies two contiguous sites on approximate 53 acres (cumulatively), north of the West Evan Hewes Highway. The two project sites are known as Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF). The project sites occupy the former western shoreline of prehistoric Lake Cahuilla. Lake Cahuilla was a freshwater lake that was filled by the Colorado River between 25,000 and 45,000 years ago during the late Pleistocene and then again during the late Holocene. There were numerous Lake Cahuilla filling and desiccation cycles during the late Holocene; however, the number of lakestands and their dates remain problematic (Schaefer 1994a; Waters 1980, 1983; Wilke 1978). These lakestands were significant water sources for prehistoric peoples. The Lake Cahuilla shoreline has been associated with extensive prehistoric use and occupation.

The prehistory of Imperial County, California, may be divided into four major temporal periods: Preprojectile, Paleoamerican, Archaic, and Late Prehistoric. These time periods have regional expression through various regional archaeological complexes or archaeological cultures.

Ethnohistory

The project area was utilized prehistorically by the Kumeyaay. The Kumeyaay were also known as Tipailpai, Kamia, and formerly as Diegueño. Kumeyaay boundaries are not strictly defined. Their territory ranges from the San Luis Rey River in the north to the Salton Sea and Sand Hills in the east, south to the Hardy River and west to the Todas Santos Bay in Baja, California. The Kumeyaay spoke three distinct Yuman language family dialects (still often generalized as Diegueño), including Ipai in the north, Tipai in the south, and a third hypothesized dialect in Baja's southern interior. The Kumeyaay occupied semi-sedentary villages, and subsisted by hunting and gathering small game, acorns, grass seeds, and other plant resources. Kumeyaay stone tools include complex chipped and groundstone industries, which are commonly manufactured using locally abundant quartzite, felsite, andesite, and fine-grained granitics. Obsidian, chalcedony, chert, and other stone tool materials were also used, but were acquired through trade.

Historic Period

The historic period is described as including the Spanish Period (1769-1821) in the Colorado Desert which begins with the Alarcon exploration up the Colorado River in 1540 and the land expedition to the Colorado River by Melchior Diaz in the same year, and the Mexican Period (1821-1848), in which the mission system was secularized by the Mexican government and these lands allowed for the dramatic expansion of the rancho system. The Mexican Period ended, when Mexico signed the Treaty of Guadalupe Hidalgo on February 2, 1848, concluding the Mexican-American War (1846-1848). The American Period (1848-present) began and in 1850 California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period.

Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day.

Paleontological Resources

The project area is located in the Imperial Valley which is directly underlain by geologic units comprised of quaternary lake deposits of the ancient Lake Cahuilla. Lakebed deposits of ancient Lake Cahuilla have yielded fossil remains from numerous localities in Imperial Valley. These include extensive freshwater shell beds, fish, seeds, pollen, diatoms, foraminifera, sponges, and wood. Lake Cahuilla deposits have also yielded vertebrate fossils, including teeth and bones of birds, horses, bighorn sheep, and reptiles. Therefore, the paleontological sensitivity of these lakebed deposits within the project area is considered to be high.

Records Search/Previously Recorded Resources

On March 5, and 12, 2015 a records search was conducted at the South Coastal Information Center (SCIC). This archival research reviewed the status of all recorded historic and prehistoric cultural resources recorded, and survey and excavation reports completed within one mile of the project sites. Additional resources reviewed included the National Register of Historic places (national Register), the California Register, and documents and inventories published by the California Office of Historic Preservation (OHP). These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Data from the SCIC reveal that 20 previous cultural resources studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. Four of the previous studies have assessed portions of the project sites, and seven cultural resources have been previously recorded within the boundaries of SEPV Dixieland West. These included six isolated prehistoric artifacts, and one secondary deposit of mixed prehistoric artifacts and modern materials. No cultural resources have been previously recorded within the boundaries of SEPV Dixieland East. The records search is summarized in Table 4.5-2.

TABLE 4.5-2. CULTURAL RESOURCES AND REPORTS WITHIN THE PROJECT SITES' STUDY RADIUS

USGS 7.5 Minute Quadrangle	Cultural Resources Within One Mile of Project Sites	Studies Within One Mile of Project Sites
Plaster City, California (1979)	P-13-435, 1724, 3399, 6390, 6391, 6392, 6394, 6398, 7816, 7834, 7886, 8334, 8418, 8489, 8653, 8657, 8658, 8820, 8821, 9302, 9539*, 9540*, 9589*, 9594, 9880, 10538, 10656, 11401, 11644, 11645, 11646, 11647, 11648, 11742, 11743, 13118, 13122*, 13123*, 13124*, 13125*, 13126, 13220, 13221, 13222, 13276, 13286, 14652	IM106-203**, 207** 210**, 252, 297, 757, 804, 820, 916, 1057, 1092, 1182, 1228, 1330, 1350**, 1517, 1534, 1535, 1541, 1542

^{*}Recorded within DWSF.

Field Inventory Results

A pedestrian cultural resources field survey of the project sites was conducted on March 3 and April 2, 2015. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the project sites, where accessible. Cultural resources were recorded on DPR 523 forms. Digital photographs included detail photographs of all cultural resources. Cultural resources were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix F)
- Hand-held Garmin Global Positioning systems for mapping purposes
- Digital photography of all cultural resources (see Appendix F)

^{**}Previously assessed portions of the project sites.

During the field survey, BCR Consulting archaeologists updated documentation for the seven previously recorded cultural resources using DPR 523 forms (P-13-9539, 9540, 9589, 13122, 13123, 13124, and 13125) and identified one previously unrecorded cultural resource (SEP1501-P-1). Each of the eight resources was discovered within SEPV Dixieland West, and is described below (see also Appendix F). Surface collection and archaeological test excavations were also conducted to evaluate a prehistoric site (SEP1501-P-1) discovered within DWSF site for California Register eligibility.

P-13-9539. This isolate was originally recorded as one porphyritic metavolcanic debitage and one black volcanic debitage located amongst dense creosote mounds separated by rills. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-9540. This isolate was originally recorded as one porphyritic metavolcanic debitage located amongst dense creosote mounds separated by rills. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-9589. This isolate was originally recorded as two buffware pottery sherds situated on sandy alluvial sediment. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-13122. This isolate was originally recorded as a weathered, porphyritic, black, metavolcanic flake. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-13123. This isolate was originally recorded as a weathered, medium brown color buffware ceramic body sherd. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-13124. This isolate was originally recorded as an edge modified flake, made of blue/gray porphyritic metavolcanic material. BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015. The isolated artifacts were found to have limited data potential, therefore the prehistoric isolate was not considered a "historical resource" under CEQA and does not warrant further consideration.

P-13-13125. This site was originally recorded as a possible secondary deposit consisting of a lithic scatter. Additionally, lithics include obsidian, jasper, and petrified wood. BCR Consulting re-identified the site during intensive pedestrian field survey on March 3, 2015. BCR found the same materials mixed with modern shotgun shells and non-diagnostic rusted cans. The deposit is located atop sediments in a clearing created by an intersection of off road vehicle tracks. This appears to be a secondary deposit accumulated during unauthorized collecting. As a result P-13-13125 has limited data potential and is not considered a "historical resource" under CEQA. It does not warrant further consideration.

SEP1501-P-1. The site was originally identified on March 3, 2015. This site consists of a low-density artifact scatter containing one andesite core, an andesite core reduction flake, two reddish ceramic potsherds, two fish ribs, and a small concentration of fire-affected rock. The boundaries have been defined by the extent of the artifact scatter in addition to limits imposed by vegetation surrounding the site. The site appears to be in poor condition. It is located on a bench with an eastern aspect. Alterations to the site have resulted from sheetwashing and vegetation growth. The site is located in creosote scrub with a large screwbean mesquite located at the southern site boundary. The site was revised on April 2, 2015, to

complete the surface collection, STP excavation, and mapping. Additional fire affected rocks, ceramic potsherd, and andesite core were found, but lacked information and were not collected. The fish bones found during the original site visit could not be found during the revisit. Due to the low analytical value of the surface finds, additional STPs beyond the original research design (10 total) were excavated on this site. Each STP was intuitively placed within 20 meters of the surface scatter in order to help elicit the horizontal and vertical extent of the deposit. Excavations did not yield any buried cultural remains, relevant soil changes, or visible signs of cultural activity.

4.5.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to cultural resources, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.5.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to cultural resources are considered significant if any of the following occur:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5:
- Directly or indirectly destroy a unique paleontological resource or site or unique geological feature; or
- Disturb any human remains, including those interred outside of formal cemeteries.

4.5.2.2 Methodology

This analysis evaluates the potential for the projects, as described in Chapter 3, Project Description, to interact with cultural resources in the project area. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, literature reviews were conducted for the project sites. This analysis is included as Appendix F of this EIR. The information obtained from these sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with cultural resources that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities. Conceptual site plans for the projects were also used to evaluate potential impacts. These conceptual exhibits are provided in Figures 3-5 and Figures 3-7.

4.5.2.3 Impact Analysis

IMPACT Impact to Historical Resources

The proposed projects would not cause a substantial adverse change in the significance of a historical resource.

Dixieland East Solar Farm and Dixieland West Solar Farm

To be considered historically significant, a resource must meet one of four criteria for listing outlined in the California Register of Historical Resources (CRHR) (CEQA Guidelines 15064.3 (a)(3)). In addition to



meeting one of the criteria outlined the CRHS, a resource must retain enough intact and undisturbed deposits to make a meaningful data contribution to regional research issues (CCR Title 14, Chapter 1.5 Section 4852 [c]). Further, based on CEQA Guidelines Section 15064.5 (b), substantial adverse change would include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is materially impaired. This can occur when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR, National Register of Historic Resources, a local register, or historic resources.
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its identification in an historical resources survey meeting the requirements of PRC §5024.1(g), unless the public agency establishes by a preponderance of the evidence that the resource is not historically or culturally significant.

Data from the SCIC revealed 20 previous cultural resources studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded with one-mile of the project sites. No cultural resources were found to be in DESF. Six prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) and one secondary deposit of mixed prehistoric artifacts (P-13-13125) and modern materials were previously recorded in DWSF. Additionally, one previously unrecorded cultural resource (a prehistoric artifact scatter temporarily designated SEP 1501-P-1) was identified on March 3, 2015. Based on results of initial research and additional evaluation for SEP1501-P-1, these resources were not identified as being "historical resources" under CEQA. Therefore, **no impact** would occur.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.5-2

Impact to Archaeological Resources

The proposed projects could cause a substantial adverse change in the significance of an archaeological resource.

Pursuant to CEQA Guidelines §15064.5(c)(1) and (2), an archaeological resource includes an archaeological site that qualifies as a significant historical resource as described for Impact 4.5-1. If an archaeological site does not meet any of the criteria outlined in the provisions under Impact 4.5-1, but meets the definition of a "unique archaeological resource" in PRC 21083.2, the site shall be treated in accordance with the provisions of PRC 21083.2, unless the project applicant and public agency elect to comply with all other applicable provisions of CEQA with regards to archaeological resources. "Unique archaeological resource" means an archaeological artifact, object or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- (1) Contains information needed to answer important scientific research questions that there is a demonstrable public interest in that information.
- (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- (3) Is directly associated with a scientifically recognized important historic event or person.

CEQA Guidelines 15064.5(c)(4) confirms that if an archaeological resource is neither a unique archaeological nor an historic resource, the effects of the projects on those resources shall not be considered a significant effect on the environment.

Dixieland East Solar Farm and Dixieland West Solar Farm

The literature review of the project area indicates there are cultural resources within 1-mile of DWSF (see Table 4.5-2. No cultural resources have been found in DESF. Within DWSF, eight resources were discovered as described above. The six prehistoric isolates and one secondary deposit had limited data potential and are not considered historical resources under CEQA. Substantial research regarding the one prehistoric artifact scatter (SEP1501-P-1) that was identified to have potential for buried resources was conducted. The site lacked integrity and failed to meet any of the four criteria as prescribed in California Register of Historical Resources (CRHR) (CEQA Guidelines 15064.3 (a)(3). Therefore all items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program are not "unique archaeological resources" or "historical resources under CEQA. Therefore **no impact** would occur.

The projects include ground-disturbing activities that will extend to depths of 20 feet below the ground surface. As such, the projects have the potential to disturb previously undocumented cultural resources that could qualify as unique archaeological resources pursuant to CEQA. This is considered a **significant impact**. Implementation of proposed Mitigation Measures CR-1 and CR-2 would reduce the potential impact to a level less than significant.

Mitigation Measure(s)

The following mitigation measures are required for DESF and DWSF.

CR-1

Pursuant to CEQA Guidelines §15064.5(f), in the event that previously unidentified unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until significance and the appropriate mitigation measures are determined by a qualified archaeologist familiar with the resources of the region.

Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation.

CR-2

In the event of the discovery of previously unidentified archaeological materials, the contractor shall immediately cease all work activities within approximately 100 feet of the discovery. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, and scrapers) or tool making debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. After cessation of excavation, the contractor shall immediately contact the Imperial County Department of Planning and Development Services. Except in the case of cultural items that fall within the scope of the Native American Grave Protection and Repatriation Act (NAGPRA), the discovery of any cultural resource within the project area shall not be grounds for a "stop work" notice or otherwise interfere with the project's continuation except as set forth in this paragraph.

In the event of an unanticipated discovery of archaeological materials during construction, the applicant shall retain the services of a qualified professional archaeologist, meeting the Secretary of the Interior's Standards for a Qualified Archaeologist, to evaluate the significance of the materials prior to resuming any construction-related activities in the vicinity of the find. If the qualified archaeologist determines that the discovery constitutes a significant resource under CEQA and it

cannot be avoided, the applicant shall implement an archaeological data recovery program.

IMPACT 4.5-3

Impact to Paleontological Resources

The proposed projects would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Many paleontological fossil sites are recorded in Imperial County and have been discovered during construction activities. Paleontological resources are typically impacted when earthwork activities such as mass excavation cut into geological deposits (formations) with buried fossils. One area in which paleontological resources appear to be concentrated in this region is the shoreline of ancient Lake Cahuilla, which would have encompassed the present-day Salton Sea. The lake covered much of the Imperial Valley and created an extensive lacustrine environment. Lake Cahuilla experienced several fill-recession episodes before it finally dried up about 300 years ago. In 1905, the Colorado River overflowed into the Salton Basin creating the present-day Salton Sea. Because lacustrine environments typically provide the appropriate conditions for fossil preservation, there is a potential for paleontological resources to be present within the project sites.

Dixieland East Solar Farm and Dixieland West Solar Farm

Based on a records search conducted for the project sites through the Natural History Museum of Los Angeles County, no vertebrate fossil localities lie directly within the proposed project boundaries; however, there are nearby localities from the same deposits that occur in the proposed project area. The soils beneath both project sites contain surface lacustrine and fluvial deposits of late Pleistocene or Holocene age known as the Lake Cahuilla beds. Several vertebrate fossil localities in these Lake Cahuilla beds occur north-northwest of the project area, and have produced significant fauna of terrestrial and freshwater vertebrates as well as diatoms, land plants, clams, snails, and crustaceans. Even relatively shallow excavations in the Lake Cahuilla beds exposed in the proposed project area may encounter significant vertebrate fossil remains.

Impacts to any surface or near-surface level paleontological resources may occur due to grading and disturbance of the area. Based upon the results of the records search, the projects have the potential to disturb paleontological resources. Even relatively shallow excavations in the Lake Cahuilla beds exposed in the proposed project area may encounter significant vertebrate fossil remains. Therefore this is considered **potentially significant impact**. Mitigation Measure CR-3 will ensure that the potential project impacts to paleontological resources do not rise to the level of significance pursuant to CEQA. With implementation of Mitigation Measure CR-1, the impact will be **less than significant**.

Mitigation Measure(s)

The following mitigation measure is required for DESF and DWSF.

CR-3

A County-approved qualified paleontological monitor shall be present during excavation activities associated with project construction. The depth of excavation that requires paleontological monitoring shall be determined by the paleontological monitor and the construction contractor based on initial observations during construction earth moving. The paleontological monitor will be equipped to salvage fossils as they are unearthed (to help avoid construction delays). Monitors are empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens shall be prepared to a point of identification and permanent preservation. Fossil specimens shall be curated by accessioning them into an established, accredited museum repository with permanent retrievable paleontological storage. A report of findings with an appended itemized inventory of specimens will be prepared. The report and inventory, when submitted to the Imperial County Department of Planning and Development Services, along with confirmation of the curation of recovered specimens into an established,

accredited museum repository, will signify completion of the program to mitigate impacts to paleontological resources. In general, a paleontological monitor will not be required after possible fossil bearing sediments have been excavated. The monitor is not required during the construction phase when the steel posts for the arrays are installed.

IMPACT 4.5-4

Impact to Human Remains

The proposed projects could disturb and human remains, including those interred outside of formal cemeteries.

Dixieland East Solar Farm and Dixieland West Solar Farm

During the construction and operational phases of the proposed projects, grading, excavation and trenching will be required. While no potential human remains have been identified in the project area, subsurface activities always have some potential to impact previously unknown remains. This is considered a **potentially significant impact**. Mitigation Measure CR-4 will ensure that the potential project impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA. With implementation of Mitigation Measure CR-4, the impact will be **less than significant**.

Mitigation Measure(s)

The following mitigation measure is required for the DESF and DWSF.

CR-4

Human Remains. In the event that any human remains or related resources are discovered on the project site, such resources shall be treated in accordance with federal, state, and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate. All construction affecting the discovery site shall cease until, as required by CEQA Guidelines, Section 156064.5(e), the human remains are evaluated by the County Coroner for the nature of the remains and cause of death. All parties involved would ensure that any such remains are treated in a respectful manner and that all applicable federal, state, and local laws are followed.

If human remains are found to be of Native American origin, or if associated grave goods or objects of cultural patrimony are discovered, the provisions of NAGPRA would be followed, and the Native American Heritage Commission shall be asked to determine the most likely descendants who are to be notified or, if unidentifiable, to establish the procedures for burial.

4.5.3 Decommissioning/ Restoration and Residual Impacts

Decommissioning/Restoration

No impact is anticipated from restoration activities as the ground disturbance and associated impacts to cultural resources will have occurred during the construction phase of the projects.

Residual

Implementation of Mitigation Measures CR-1 and CR-2 would reduce potentially significant impacts to unknown historic or unique archaeological materials during construction of the project sites Implementation of Mitigation Measure CR-3 would ensure that the impact to paleontological resources during construction would be mitigated to a level less than significant. Implementation of Mitigation Measure CR-4 would reduce potential impacts to human remains to a level less than significant. No unmitigated impacts to cultural resources would occur with implementation of the projects.

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4.6 GEOLOGY AND SOILS

This section provides an evaluation of the projects in relation to existing geologic and soils conditions within the project area. Information contained in this section is summarized from publications made available by the California Geological Survey (CGS) and site-specific geotechnical studies prepared by Landmark Consultants, Inc. (LCI). The geotechnical reports for Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF) prepared by LCI are included in Appendix G of this Environmental Impact Report (EIR).

4.6.1 Environmental Setting

The project sites are located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments deposited since the Miocene Epoch.

Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity. Figure 4.6-1 shows the location of the project sites in relation to regional faults and physiographic features.

The geologic conditions present within the County contribute to a wide variety of hazards that can result in loss of life, bodily injury, and property damage. Fault displacement is the principal geologic hazard affecting public safety in Imperial County. The primary seismic hazard at the project sites is the potential for strong groundshaking due to potential fault movements along the Brawley, Superstition Hills, and Imperial Faults. Secondary geologic hazards that have a potential to occur include differential ground settlement, soil liquefaction, rock and mudslides, ground lurching, or ground displacement along the fault.

4.6.1.1 Regulatory Setting

This section identifies and summarizes Federal, State, and local laws, policies, and regulations that are applicable to the projects.

Federal

Earthquake Hazards Reduction Act

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program. To accomplish this goal, the act established the National Earthquake Hazards Reduction Program (NEHRP). This program was substantially amended in November 1990 by the National Earthquake Hazards Reduction Program Act (NEHRPA), which refined the description of agency responsibilities, program goals, and objectives.

The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRPA designates the Federal Emergency Management Agency as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, National Science Foundation, and United States Geological Survey (USGS).

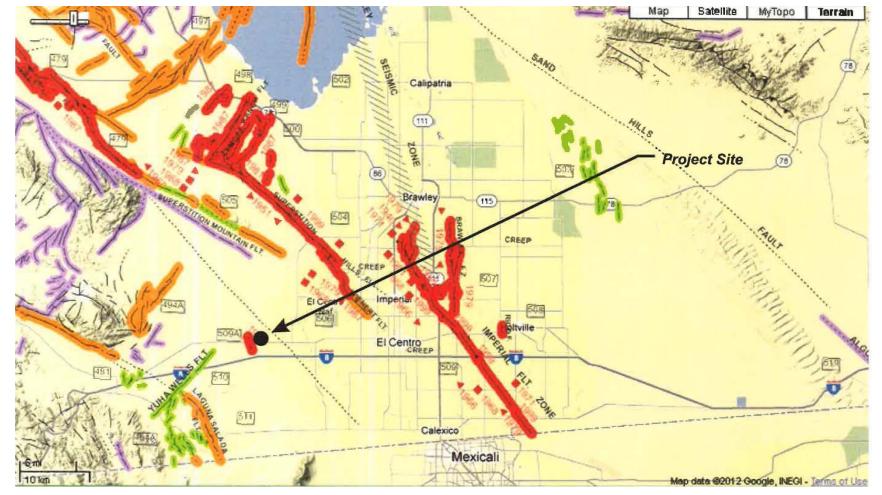


Figure 4.6-1. Regional Faults

Source: LCI 2015

State

Alquist-Priolo Special Studies Zone Act (1972)

The Alquist-Priolo Special Studies Zone Act (AP Act) was passed into law following the destructive February 9, 1971 San Fernando earthquake. The AP Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Act is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep. The State Geologist (Chief of the California Division of Mines and Geology) is required to identify "earthquake fault zones" along known active faults in California. Counties and cities must withhold development permits for human occupancy projects within these zones unless geologic studies demonstrate that there would be no issues associated with the development of a project. Based on a review of the current Alquist-Priolo Earthquake Fault Zone Maps produced by the California Geologic Survey, no faults are mapped under the AP Act within the project area.

California Building Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. California Code of Regulations Title 24 (CCR Title 24) is reserved for state regulations that govern the design and construction of buildings, associated facilities and equipment, known as building standards. The California Building Code (CBC) is based on the Federal Uniform Building Code (UBC) used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The California Health and Safety Code Section 18980 Health and Safety Code Section 18902 give CCR Title 24 the name of California Building Standards Code.

The most recent building standard adopted by the legislature and used throughout the state is the 2013 version of the CBC (which became effective January 1, 2014 – except for the energy provisions that became effective July 1, 2014). The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground shaking with specified probability of occurring at a site.

The CBC defines different Seismic Design Categories based on building occupancy type and the severity of the probable earthquake ground motion at the site. There are six Seismic Design Categories and designated as Categories A through F, with Category A having the least seismic potential and Category F having the highest seismic potential. Structures are designed for prevention of collapse for the maximum level of ground shaking that could reasonably be expected to occur at a site. The project sites are located within Seismic Design Category D.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act aims to reduce the threat of seismic hazard to public health and safety by identifying and mitigating seismic hazards. Through the act, the California Department of Conservation, Division of Mines and Geology, is directed to delineate seismic hazard zones. State, County, and City agencies are directed to utilize such maps in land use and permitting processes. The act also requires geotechnical investigations particular to the site be conducted before permitting occurs on sites within seismic hazard zones. To date, a Seismic Hazards Map has not been prepared for areas encompassing the project sites.

Local

County of Imperial General Plan

The Seismic and Public Safety Element identifies goals and policies that will minimize the risks associated with natural and human-made hazards. The purpose of the Seismic and Public Safety Element is directly concerned with reducing the loss of life, injury, and property damage that might result

from disaster or accident. Additionally, known as the Imperial Irrigation District Lifelines, the Imperial Irrigation District (IID) has formal Disaster Readiness Standard Operating Procedure for the Water Department, Power Department, and the entire District staff for response to earthquakes and other emergencies. The Water Department cooperates with the Imperial County Office of Emergency Services (OES) and lowers the level in canals after a need has been determined, and only to the extent necessary.

Table 4.6-1 analyzes the consistency of the projects with specific policies contained in the County of Imperial General Plan associated with geology, soils, and seismicity.

TABLE 4.6-1. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN SEISMIC AND PUBLIC SAFETY POLICIES

General Plan Policies	Consistency with General Plan	Analysis
Goal 1. Include public heath and safety considerations in land use planning.	Consistent	Division 5 of the County Land Use Ordinance has established procedures
Objective 1.1. Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy which are located across the trace of an active fault are prohibited. An exception exists when such buildings located near the fault or within a designated Special Studies Zone are demonstrated through a geotechnical analysis and report not to expose a person to undue hazard created by the construction.
Objective 1.3. Regulate development adjacent to or near all mineral deposits and geothermal operations.		
Objective 1.4. Require, where possessing the authority, that avoidable seismic risks be avoided; and that measures, commensurate with risks, be taken to reduce injury, loss of life, destruction of		
property, and disruption of service. Objective 1.7. Require developers to provide information related to geologic and seismic hazards when siting a proposed project.		Since the project area is located in a seismically active area, the projects are required to be designed in accordance with the California Building Code (CBC) for near source factors derived from a Design Basis Earthquake (DBE) based on a peak ground acceleration (PGA) of 0.50 gravity (g) (LCI, 2015). It should be noted that the projects would be remotely operated and would not require any habitable structures on site. In considering these factors in conjunction with mitigation requirements outlined in the impact analysis, the risks associated with seismic hazards would be minimized. Preliminary geotechnical reports have
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.		
Objective 2.2. Reduce risk and damage due to seismic hazards by appropriate regulation.		
Objective 2.5 Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.		
Objective 2.8 Prevent and reduce death, injuries, property damage, and economic and social dislocation resulting from natural hazards including flooding, land subsidence, earthquakes, other geologic phenomena, levee or dam failure, urban and wildland fires and building collapse by appropriate planning and emergency measures.		been prepared by LCI for the proposed projects. The preliminary geotechnical reports have been referenced in this environmental document. Additionally, design-level geotechnical investigations will be conducted to evaluate the potential for site specific hazards associated with seismic activity.

Source: County of Imperial General Plan, Seismic & Public Safety Element as amended through 2008

4.6.1.2 Existing Conditions

Geology

Topography within each of the project sites is relatively flat and primarily characterized by a level elevation. The DESF site lies at an elevation of approximately 30 to 35 feet below mean sea level (MSL). The DWSF site lies at an elevation of approximately 15 to 25 feet below MSL. The surrounding properties lie on terrain which is flat (planar), part of a large agricultural valley, which was previously an ancient lake bed covered with fresh water to an elevation of 43 feet above MSL.

The project sites are directly underlain by lacustrine deposits, which consist of interbedded lenticular and tabular silt, sand, and clay. The Late Pleistocene to Holocene (present) lake deposits are probably less than 100 feet thick and derived from periodic flooding of the Colorado River which intermittently formed a fresh water lake (Lake Cahuilla). Older deposits consist of Miocene to Pleistocene non-marine and marine sediments deposited during intrusions of the Gulf of California. Basement rock consisting of Mesozoic granite and Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 to 20,000 feet.

Seismicity

Earthquakes are the result of an abrupt release of energy stored in the earth. This energy is generated from the forces which cause the continents to change their relative position on the earth's surface, a process called "continental drift." The earth's outer shell is composed of a number of relatively rigid plates which move slowly over the comparatively fluid molten layer below. The boundaries between plates are where the more active geologic processes take place. Earthquakes are an incidental product of these processes. As a result, southern California is located in a considerably seismically active region as the Pacific Plate moves northward relative to the North American Plate at their boundary along the San Andreas Fault System.

The project area is located in a seismically active region, with potential for strong ground shaking associated with earthquakes. The faults/fault zones within the vicinity of (15 miles) and surrounding the project sites include (but are not limited to) the Imperial Fault Zone, Laguna Salada Fault Zone, Superstition Hills Fault, and Superstition Mountain Fault (Figure 4.6-1). According to the Preliminary Geotechnical Report, the nearest mapped earthquake fault zone is the Yuha Well fault located approximately 3.9 miles south of the DWSF. The Yuha Well fault was recently identified and zoned after the April 4, 2010 magnitude 7.2 M_w El Mayor-Cucaph earthquake.

Ground Shaking

Ground shaking is the byproduct of an earthquake and is the energy created as rocks break and slip along a fault (Christenson 1994). The amount of ground shaking that an area may be subject to during an earthquake is related to the proximity of the area to the fault, the depth of the hypocenter (focal depth), location of the epicenter and the size (magnitude) of the earthquake. Soil type also plays a role in the intensity of shaking. Bedrock or other dense or consolidated materials are less prone to intense ground shaking than soils formed from alluvial deposition.

The probability of earthquake occurrences and their associated peak ground accelerations for the project sites was estimated in the Geotechnical Report (LCI 2015). A probabilistic seismic hazard assessment is typically expressed in terms of probability of exceeding a certain ground motion. The 2013 CBC general ground motion parameters are based on the Risk-Targeted Maximum Considered Earthquake (MCE_R). The site soils have been classified as Site Class D (stiff soil profile).

Design earthquake ground motions are defined as the earthquake ground motions that are two-thirds of the corresponding MCE_R ground motions. The Maximum Considered Earthquake Geometric Mean peak ground acceleration (PGA_M) value was determined from the "U.S. Seismic Design Maps Web Application" for liquefaction and seismic settlement analysis in accordance with 2013 CBC Section 1803A.5.12 and CGS Note 48. A PGA_M value of 0.50g has been determined for the project sites.

Surface Rupture

Surface rupture occurs when movement along a fault results in actual cracking or breaking of the ground along a fault during an earthquake. However, it is important to note that not all earthquakes result in surface rupture. Surface rupture almost always follows preexisting fault traces, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. Fault creep is the slow rupture of the earth's crust. Sudden displacements are more damaging to structures because they are accompanied by shaking. No faults mapped under the Alquist-Priolo (AP) Act traverse the project sites (LCI 2015). Therefore, the potential for surface fault rupture is considered to be low at the project sites (LCI 2015).

Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as those produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur: (1) the soil must be saturated (relatively shallow groundwater); (2) the soil must be loosely packed (low to medium relative density); (3) the soil must be relatively cohesionless (not clayey); and (4) groundshaking of sufficient intensity must occur to function as a trigger of mechanism.

The saturated granular soil encountered at the points of exploration at the project sites are not considered to be susceptible to liquefaction due to the dense nature of the soil deposits.

Landslides

A landslide refers to a slow to very rapid descent of rock or debris caused by natural factors such as the pull of gravity, fractured or weak bedrock, heavy rainfall, erosion and earthquakes. The project sites are located on relatively flat topography with a low range in elevation. No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during site visits conducted by LCI (LCI 2015).

Total and Differential Settlement

Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates). Typically, areas underlain by artificial fills, unconsolidated alluvial sediments, and slope wash, and areas with improperly engineered construction fills are susceptible to this type of settlement. Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, non-compacted, and variable sandy sediments) due to the rearrangement of soil particles during prolonged ground shaking. Transitions between compacted and non-compacted surfaces could present implications for utility infrastructure in the project sites and is discussed further in the impact analysis.

Volcanic Hazards

The project sites are not located in proximity to any known volcanically active area and therefore the risk of volcanic hazards is considered very low (LCI 2015).

Soil Resources

Figure 4.6-2 identifies the soil resources within the project sites. As shown in Figure 4.6-2, DESF consists primarily of Meloland fine sand soils, with a small portion of the eastern edge consisting of Meloland very fine sandy loam. DWSF is dominated by Rositas sand 0-2%, with the southwest corner consisting of Rositas fine sand 0-2%, the northeastern corner and eastern edge consisting of Meloland fine sand, and the northwest corner composed of Indio-Vint complex.

All soil types within the project sites are found on 0-2% slopes. Meloland fine sand is described as well drained with very low runoff, and moderately saline to strongly saline. Meloland very fine sandy loam is also moderately saline to strongly saline, but differs from Meloland find sand, in that it is moderately well drained and has low runoff. Rositas sand 0-2% and Rositas fine sand 0-2% are both described as somewhat excessively drained and very slightly saline to slightly saline, but Rositas fine sand has very low runoff. Indio-Vint complex is composed of loamy to loamy fine sand, is well drained, has low to very low runoff, and is non-saline/very slightly saline to slightly saline.

Soil-Related Hazards

The physical properties of the soil base can greatly influence improvements constructed upon them. As an example, expansive soils are largely comprised of clays, which greatly increase in volume when water is absorbed and shrink when dried. This movement may result in the cracking of foundations for aboveground, paved roads, and concrete slabs. Subsurface soils encountered on DESF consist of silty sands and silts. The surficial five feet of soil consists of non-expansive silty sands. Subsurface soils encountered on DWSF consist of about five feet of surficial silty sand, overlying silty clay, and clay soils. The surficial five feet of soil consists of non-expansive silty sands.

The native soils on the project sites were found to have low to severe levels of chloride ion concentration. Soils containing chloride ions can be corrosive and damage underground utilities including pipelines and cables, or weaken roadway structures (LCI 2015). These hazards are discussed further in the impact analysis.

4.6.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to geologic and soil conditions, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

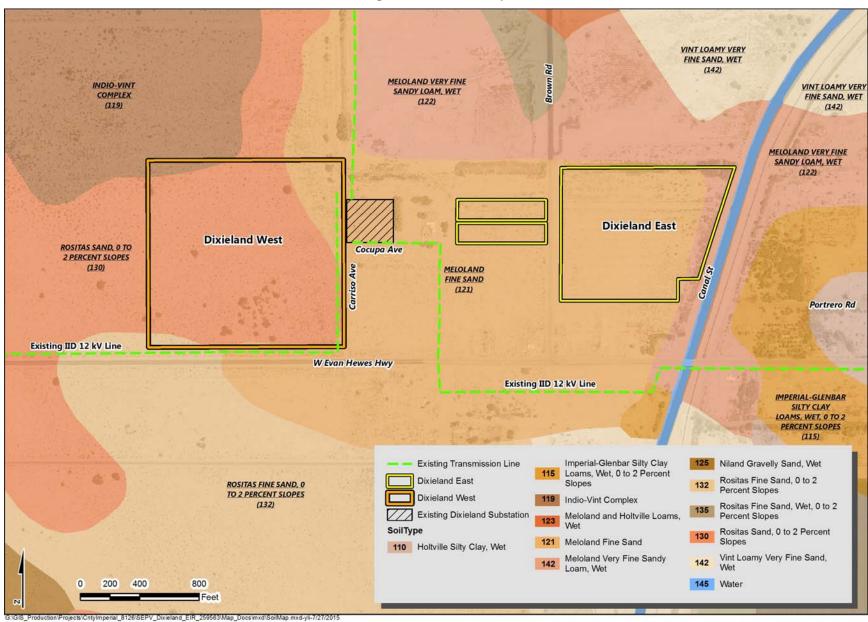


Figure 4.6-2. Soils Map

4.6.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to geologic and soil conditions are considered significant if any of the following occur:

- Expose people or structures to potential substantive adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; (Refer to Division of Mines and Geology Special Publication 42)
 - Strong seismic ground shaking;
 - Seismic related ground failure, including liquefaction;
 - Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in the latest UBC, creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.6.2.2 Methodology

This analysis evaluates the potential for the projects, as described in Chapter 3, Project Description, to interact with local geologic and soil conditions in the project sites. Based on the extent of these interactions, this analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As discussed above, two separate Geotechnical Reports have been prepared which covers the DESF and DWSF. These reports are included as Appendix G of this EIR. The analysis prepared for this EIR also relied on NRCS soil survey data ("Web Soil Survey"), and published geologic literature and maps. The information obtained from these sources was reviewed and summarized to present the existing conditions and to identify potential environmental impacts, based on the significance criteria presented in this section. Impacts associated with geology and soils that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities; and a field visit.

4.6.2.3 Impact Analysis

IMPACT 4.6-1

Possible Risks to People and Structures Caused by Strong Seismic Ground Shaking.

The project area is located in an area of moderate to high seismic activity and, therefore, project-related structures could be subject to damage from seismic ground shaking and related secondary geologic hazards.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project area is located within a seismically active area and would likely experience at least one major earthquake (greater than moment magnitude 6 on the Richter scale) within the next 30 years, which is

within the expected useful life of the projects. The closest mapped active faults to the project sites include: Shell Beds Fault (4.0 miles), Yuha Fault (5.8 miles), Vista de Anza Fault (7.0 miles), Laguna Salada Fault Zone (7.6 miles), Superstition Mountain Fault (8.2 miles), Superstition Hills Fault (9.2 miles), and Yuha Well Fault (3.9 miles) (see Figure 4.6-1)

In the event of an earthquake along one of these fault sources, seismic hazards related to ground motion could occur in susceptible areas within the project area. The intensity of such an event would depend on the causative fault and the distance to the epicenter, the moment magnitude, and the duration of shaking. Given the estimated PGA of 0.50 g (LCI 2015), ground motions within the project area could cause moderate to heavy structural damage. Because the proposed projects would not include any habitable structures and because no full-time staffing would be required to operate the facility, the projects do not pose a substantial risk of injury or death as a result of strong seismic ground shaking. However, given the potentially hazardous nature of the project facilities (e.g., danger from electrocution), the potential impact of ground motion during an earthquake is considered a **significant impact**, as proposed structures could be damaged. With the incorporation of applicable recommendations from the site-specific Geotechnical Reports into project design and construction, potential impacts associated with strong seismic ground shaking are considered **less than significant**.

Based on the Geotechnical Report prepared for DESF, liquefaction is unlikely to be a potential hazard at the site due to the lack of saturated granular soil (clay soils predominate). The clay soil encountered at the points of exploration at the project site is not considered to be susceptible to liquefaction due to the high fines content and cohesive nature of the soil deposits. Based on the Geotechnical Report prepared for DWSF, liquefaction is unlikely to be a potential hazard at the site due to the dense nature of the saturated granular soil. The saturated granular soil encountered at the points of exploration at the project sites is not considered to be susceptible to liquefaction due to the dense nature of the soil deposits. Furthermore, evaluation of the DWSF site for dry seismic settlement indicates that the site is anticipated to experience less than 0.05 inch of seismic settlement of the soil above groundwater. Due to the minimal dry seismic settlement, the probability of seismically induced dry soils densification at the site is low. Therefore, the potential impact to liquefaction is considered a **less than significant impact**.

No portion of the project area is located on an active fault or within a designated AP Zone and, therefore, the potential for ground rupture to occur within the project sites is considered to be low. Similarly, in the context of the flat topography within the project area, the potential for earthquake induced landslides to occur at the site is unlikely. For these reasons, **a less than significant impact** has been identified associated with these geologic issues.

Mitigation Measure(s)

The following mitigation measure is required for the DESF and DWSF.

GEO-1 Incorporate Site-Specific Recommendations from Geotechnical Report(s) Into Project Design. Facility design for all project components shall comply with the site-specific design recommendations as provided in the Dixieland East Solar Farm Geotechnical Investigation Report (June 2015) and Dixieland West Solar Farm Geotechnical Investigation Report (June 2015) prepared by Landmark Consultants, Inc.. The following site-specific recommendations shall be implemented by the project applicant:

- Site preparation;
- Foundations and settlements;
- Drilled piers;
- Driven steel posts;
- Concrete mixes and corrosivity;
- Excavations:
- Seismic design;
- · Soil erosion factors for SWPPP Plans; and
- Pavements.

Significance After Mitigation

With the implementation of the above mitigation measure, potential impacts from strong seismic groundshaking would be reduced to a **less than significant** level through the implementation of site-specific recommendations contained in the geotechnical reports prepared for the projects.

IMPACT Unstable Geologic Conditions.

The projects would not be located on a geologic unit or soil that is unstable, or that could become

unstable as a result of the projects.

Dixieland East Solar Farm and Dixieland West Solar Farm

Based on the Geotechnical Report prepared for DESF, liquefaction is unlikely to be a potential hazard at the site due to the lack of saturated granular soil (clay soils predominate). The clay soil encountered at the points of exploration at the project sites is not considered to be susceptible to liquefaction due to the high fines content and cohesive nature of the soil deposits. Based on the Geotechnical Report prepared for DWSF, liquefaction is unlikely to be a potential hazard at the site due to the dense nature of the saturated granular soil. The saturated granular soil encountered at the points of exploration at the project site is not considered to be susceptible to liquefaction due to the dense nature of the soil deposits. Therefore, the potential impact to unstable geologic conditions is considered a **less than significant impact**.

Mitigation Measure(s)

4.6-3

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

IMPACT Construction-Related Erosion.

Construction activities during project implementation would involve grading and movement of earth

in soils subject to wind and water erosion as well as topsoil loss.

Dixieland East Solar Farm and Dixieland West Solar Farm

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

The projects are not expected to result in substantial soil erosion or the loss of topsoil over the long-term. Ground cover will be planted between the arrays for the life-span of the solar facility is operations. Under the projects, these lands would be covered with solar arrays and a cover crop or soil stabilizer used in between the solar arrays. The ground cover would reduce the amount of soil surface exposed to erosion. A vegetation cover reduces erosion potential by: 1) shielding the soil surface from the direct erosive impact of raindrops; 2) improving the soil's water storage porosity and capacity so more water can infiltrate into the ground; 3) slowing the runoff and allowing the sediment to drop out or deposit; and 4) physically holding the soil in place with plant roots.

Further, the project applicant would be required to implement on-site erosion control measures in accordance with County standards, which require the preparation, review, and approval of a grading plan by the County Engineer. Given these considerations and the fact that the encountered soil types have a low erosion potential, the projects' long-term impact in terms of soil erosion and loss of topsoil would be **less than significant**. In addition, the implementation of Mitigation Measure HYD-1 in Chapter 4.9,

Hydrology/Water Quality, the potential **significant impact** associated with erosion from construction activities would be reduced to a **less than significant** level with the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), including Best Management Practices (BMPs) to reduce erosion from the construction site.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure HYD-1 are required.

Significance After Mitigation

With implementation of Mitigation Measure HYD-1 in Chapter 4.9, Hydrology/Water Quality, potential impacts from erosion during construction activities would be reduced to a **less than significant** level with the preparation of a SWPPP and implementation of BMPs to reduce erosion from the construction site.

IMPACT 4.6-4

Exposure to Potential Hazards from Problematic Soils.

The projects could encounter expansive or corrosive soils thereby subjecting related structures to potential risk of failure.

Dixieland East Solar Farm and Dixieland West Solar Farm

Soils containing a high percentage of clay may exhibit a moderate to high potential for shrink-swell. However, as provided in the environmental setting, the surficial five feet of the project sites consists of non-expansive silty sands. Therefore, the projects would not encounter expansive soils subjecting related structures to potential risk of failure. This would be a **less than significant impact**.

The native soils on the project sites were found to have low to severe levels of chloride ion concentration. Soils containing chloride ions can be corrosive and damage underground utilities including pipelines and cables, or weaken roadway structures. Corrosive soil materials could lead to deterioration of structural concrete footings. This impact would be a **significant impact** as structures could be damaged by these types of soils. Upon implementation of Mitigation Measure GEO-1 listed above, the impact related to corrosive soils would be reduced to a **less than significant** level, because site-specific recommendations (e.g., corrosion protection measures) contained in the geotechnical report will be incorporated into the project design.

Mitigation Measure(s)

No additional mitigation measures beyond Mitigation Measure GEO-1 are required.

Significance After Mitigation

With implementation of the Mitigation Measure GEO-1, soil-related hazards in terms of corrosive soils would be reduced to a **less than significant** level because site-specific recommendations (e.g., corrosion protection measures) contained in the geotechnical report will be incorporated into the project design.

IMPACT

On-site Wastewater Treatment and Disposal.

4.6-5

The projects would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems.

Dixieland East Solar Farm and Dixieland West Solar Farm

The proposed projects would not require an operations and maintenance building. The proposed solar facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Therefore, no septic or other wastewater disposal systems would be required for the projects.

Mitigation Measure(s)

No mitigation measures are required.

4.6.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration of the sites at the end of their use as solar fields would involve the removal of structures and restoration to their prior (pre-solar project) conditions. No geologic or soil impacts associated with the restoration activities would be anticipated, and therefore, **no impact** is identified.

Residual

With implementation of Mitigation Measures GEO-1 and HYD-1, impacts related to strong seismic ground-shaking, construction-related erosion, and soil hazards related to corrosion, would be reduced to less than significant levels. Based on these circumstances, the projects would not result in residual significant and unmitigable impacts related to geology and soil resources.

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4.7 GREENHOUSE GAS EMISSIONS

This section provides an overview of existing Greenhouse Gas (GHG) emissions within the project area and identifies applicable federal, state, and local policies related to global climate change. The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines in conjunction with actions proposed in Chapter 3, Project Description. OB-1 Air Analyses prepared an Air Quality/Greenhouse Gas Report in August 2015 for the SEPV Dixieland East and West Solar Farm Projects. The report is included in Appendix D of this Environmental Impact Report (EIR).

4.7.1 Environmental Setting

Global Climate Change (GCC) refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), which are known GHGs. These gases allow solar radiation (sunlight) into the Earth's atmosphere, but prevent radiative heat from escaping, thus warming the Earth's atmosphere. Gases that trap heat in the atmosphere are often called GHGs, analogous to a greenhouse. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth's temperature. Emissions from human activities, such as burning fossil fuels for electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere.

The State of California has been at the forefront of developing solutions to address GCC. GCC refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. GCC may result from natural factors, natural processes, and/or human activities that change the composition of the atmosphere and alter the surface and features of land.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC concluded that a stabilization of GHGs at 400 to 450 ppm CO₂ equivalent concentration is required to keep global mean warming below 3.6 degrees Fahrenheit (° Fahrenheit) (2° Celsius), which is assumed to be necessary to avoid dangerous climate change (Union of Concerned Scientists 2007).

State law defines GHGs as any of the following compounds CO_2 , CH_4 , N_2O , hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) (California Health and Safety, Code Section 38505(g)).

Carbon Dioxide (CO₂) is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO₂ is produced when an organic carbon compound (such as wood) or fossilized organic matter, (such as coal, oil, or natural gas) is burned in the presence of oxygen. CO₂ is removed from the atmosphere by CO₂ "sinks", such as absorption by seawater and photosynthesis by ocean-dwelling plankton and land plants, including forests and grasslands. However, seawater is also a source of CO₂ to the atmosphere, along with land plants, animals, and soils, when CO₂ is released during respiration. Whereas the natural production and absorption of CO₂ is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution. Prior to the industrial revolution, concentrations CO₂ were stable at a range of 275 to 285 ppm. The National Oceanic and Atmospheric Administration (NOAA) Earth System Research Laboratory (ESRL) indicates that global concentration of CO₂ were 396.72 ppm in April 2013. In addition, the CO₂ levels at Mauna Loa averaged over 400 ppm for the first time during the week of May 26, 2013. These concentrations of CO₂ exceed by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH4) is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH4 is combustible, and it is the main constituent of natural gas-a fossil fuel. CH4 is released when organic matter decomposes in low oxygen environments. Natural sources include

wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH₄. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N₂O) is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Man-made sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (HFCs) are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride (SF6) is an extremely potent greenhouse gas. SF_6 is very persistent, with an atmospheric lifetime of more than a thousand years. Thus, a relatively small amount of SF_6 can have a significant long-term impact on global climate change. SF_6 is human-made, and the primary user of SF_6 is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF_6 is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

The State of California GHG Inventory performed by the California Air Resources Board (CARB), compiled statewide anthropogenic GHG emissions and sinks. It includes estimates for CO_2 , CH_4 , N_2O , SF_6 , HFCs, and PFCs. The current inventory covers the years 2000 to 2013, and is summarized in Table 4.7-1. Data sources used to calculate this GHG inventory include California and Federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the IPCC. The 2000 emissions level is the sum total of sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: agriculture, commercial and residential, electric power, industrial, transportation, recycling and waste, and high global warming potential (GWP) gases.

When accounting for GHGs, all types of GHG emissions are expressed in terms of CO_2 equivalents (CO_2e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

TABLE 4.7-1. CALIFORNIA GHG EMISSIONS INVENTORY 2000-2013

Sector	Total 2000 Emissions (MMTCO ₂ e) ¹	Total 2013 Emissions (MMTCO₂e)
Agriculture	32.10	36.21
Commercial and Residential	43.18	43.54
Electric Power	104.85	90.45
Industrial	97.87	92.68
Transportation	176.08	169.02
Recycling and Waste	7.45	8.87
High GWP Gases	7.24	18.50

Source: CARB 2015

Note: $MMTCO_2e = million metric tons of <math>CO_2$ equivalent.

GHGs have varying GWP. The GWP is the potential of a gas or aerosol to trap heat in the atmosphere; it is the cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas. The reference gas for GWP is CO_2 ; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include CH_4 , which has a GWP of 21, and N_2O , which has a GWP of 310.

4.7.1.1 Regulatory Setting

On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and Executive Orders, most recently, Executive Order 13423 Strengthening Federal Environmental, Energy, and Transportation Management (January 24, 2007) was enacted. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

Federal

Recent actions by the U.S. EPA have allowed for the regulation of GHGs. On April 17, 2009, the U.S. EPA issued its proposed endangerment finding for GHG emissions. On December 7, 2009, the U.S. EPA Administrator signed and finalized two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs: CO₂, CH₄, N₂O, HFCs, PFCs, and SF6 in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the U.S. EPA's proposed GHG emission standards for light-duty vehicles, which were jointly proposed by U.S. EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009 and adopted on April 1, 2010. As finalized in April 2010, the emissions standards rule for vehicles will improve average fuel economy standards to 35.5 miles per gallon by 2016. In addition, the rule will require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of CO₂ per mile.

On March 10, 2009, in response to the Fiscal Year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110–161), the U.S. EPA proposed a rule that requires mandatory reporting of GHG emissions from large sources in the United States. On September 22, 2009, the Final Mandatory Reporting of Greenhouse Gases Rule was signed, and was published in the Federal Register on October 30, 2009.

The rule became effective on December 29, 2009. The rule will collect accurate and comprehensive emissions data to inform future policy decisions.

The U.S. EPA is requiring suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 MT or more per year of GHG emissions to submit annual reports to U.S. EPA. The gases covered by the proposed rule are CO₂, CH₄, N₂O, HFC, PFC, SF₆, and other fluorinated gases, including nitrogen trifluoride (NF₃) and hydrofluorinated ethers (HFE).

State

California Code of Regulations Title 24. Although not originally intended to reduce GHG emissions, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency results in decreased GHG emissions.

California Assembly Bill 1493. California Assembly Bill (AB) 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles. CARB estimates that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030. The federal Corporate Average Fuel Economy (CAFE) standard determines the fuel efficiency of certain vehicle classes in the United States. In 2007, as part of the Energy and Security Act of 2007, CAFE standards were increased for new light-duty vehicles to 35 miles per gallon by 2020.

Executive Order S-01-07. Executive Order S-01-07 was enacted by the Governor on January 18, 2007. Essentially, the order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California. It is assumed that the effects of the LCFS would be a 10% reduction in GHG emissions from fuel use by 2020.

Executive Order S-3-05. Executive Order S-3-05, signed by Governor Schwarzenegger on June 1, 2005, calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions by 2050. Executive Order S-3-05 also calls for the California EPA (CalEPA) to prepare biennial science reports on the potential impact of continued GCC on certain sectors of the California economy. The first of these reports, "Our Changing Climate: Assessing Risks to California," and its supporting document "Scenarios of Climate Change in California: An Overview" were published by the California Climate Change Center in 2006.

Assembly Bill 32, the California Global Warming Solutions Act of 2006. In September 2006, Governor Schwarzenegger signed California AB 32, the global warming bill, into law. AB 32 directs CARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit.
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020.
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures.
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct

emission reduction measures, alternative compliance mechanisms, and potential monetary and nonmonetary incentives that reduce GHG emissions from any sources or categories of sources that ARB finds necessary to achieve the statewide GHG emissions limit.

- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.
- CARB approved a 1990 GHG emissions level of 427 MTCO₂e, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 MTCO₂e. It was estimated that the 2020 estimated BAU of 596 MTCO₂e would have required a 28 percent reduction to reach the 1990 level of 427 MTCO₂e.

In response to the requirements of AB 32, the CARB released a Scoping Plan in 2008. This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB in December 2008. According to the Scoping Plan, the 2020 target of 427 MTCO₂e requires the reduction of 169 MTCO₂e, or approximately 28.3 percent, from the State's projected 2020 BAU emissions level of 596 MTCO₂e.

In August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

Senate Bill 97. Senate Bill 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs Office of Planning and Research (OPR) to develop draft CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009, and directs the Resources Agency to certify and adopt the CEQA Guidelines by January 1, 2010.

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines in the California Code of Regulations. The amendments went into effect on March 18, 2010, and are summarized below:

- Climate action plans and other GHG reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the GHG emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. In addition, consideration of several qualitative factors may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. The Guidelines do not set or dictate specific thresholds of significance.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of GHG emissions in Appendix G of the CEQA Guidelines.
- The Guidelines are clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- The Guidelines promote the advantages of analyzing GHG impacts on an institutional, programmatic level, and therefore approve tiering of environmental analyses and highlights some benefits of such an approach.

• Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential, pursuant to Appendix F of the CEQA Guidelines.

Senate Bill 375. Senate Bill 375 requires that regions within the State which have a metropolitan planning organization must adopt a sustainable communities strategy as part of their regional transportation plans. The strategy must be designed to achieve certain goals for the reduction of GHG emissions. The bill finds that GHG from autos and light trucks can be substantially reduced by new vehicle technology, but even so, "it will be necessary to achieve significant additional GHG reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 provides that new CEQA provisions be enacted to encourage developers to submit applications and local governments to make land use decisions that will help the State achieve its goals under AB 32," and that "current planning models and analytical techniques used for making transportation infrastructure decisions and for air quality planning should be able to assess the effects of policy choices, such as residential development patterns, expanded transit service and accessibility, the walkability of communities, and the use of economic incentives and disincentives."

Senate Bill 1078, Senate Bill 107, and Executive Order S-14-08. SB 1078 initially set a target of 20 percent of energy to be sold from renewable sources by the year 2017. The schedule for implementation of the Renewables Portfolio Standard (RPS) was accelerated in 2006 with the Governor's signing of SB 107, which accelerated the 20 percent RPS goal from 2017 to 2010. On November 17, 2008, the Governor signed Executive Order S-14-08, which requires all retail sellers of electricity to serve 33 percent of their load with renewable energy by 2020.

Executive Order S-21-09. Executive Order S-21-09 was enacted by the Governor on September 15, 2009. Executive Order S-21-09 requires that the CARB, under its AB 32 authority, adopt a regulation by July 31, 2010 that sets a 33 percent renewable energy target as established in Executive Order S-14-08. Under Executive Order S-21-09, the CARB will work with the Public Utilities Commission (PUC) and California Energy Commission to encourage the creation and use of renewable energy sources, and will regulate all California utilities. The CARB will also consult with the Independent System Operator and other load balancing authorities on the impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of the Executive Order. The order requires the CARB to establish highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health.

Senate Bill X1-2. Senate Bill X1-2 was signed by Governor Brown, in April 2011. This new RPS preempts CARB's 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities (IOUs), electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020. Renewable energy sources include wind, geothermal, and solar.

County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and GCC impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Imperial County has not established formal quantitative or qualitative thresholds through a public rulemaking process, but CEQA permits the lead agency to establish a project-specific threshold of significance if backed by substantial evidence, until such time as a formal threshold is approved.

4.7.1.2 Existing Conditions

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. The accumulation of GHGs in the atmosphere regulates the earth's temperature. Scientific evidence indicates a trend of increasing global temperature over the past century, which a number of scientists attribute to an increase in GHG emissions from human activities. Recent observed changes due to global warming include shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (Intergovernmental Panel on Climate Change 2007). Generally accepted predictions of long-term environmental impacts due to global warming include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack.

Human-caused sources of CO_2 include combustion of fossil fuels (coal, oil, natural gas, gasoline and wood). Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO_2 have increased in the atmosphere since the industrial revolution. CH_4 is the main component of natural gas and also arises naturally from anaerobic decay of organic matter. Human-caused sources of natural gas include landfills, fermentation of manure and cattle farming. Human-caused sources of N_2O include combustion of fossil fuels and industrial processes such as nylon production and production of nitric acid. Other GHGs are present in trace amounts in the atmosphere and are generated from various industrial or other uses. GHGs present in the project study areas primarily include CO_2 and N_2O from farm equipment and local traffic.

The California Climate Change Center (CCCC) used a range of emissions scenarios developed by the IPCC to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21st century. Three warming ranges were identified: Lower warming range (3.0 to 5.5° F); medium warming range (5.5 to 8.0° F); and higher warming range (8.0 to 10.5° F). The CCCC also presents an analysis of the future projected climate changes in California under each warming range scenario (CCCC 2006).

According to CCCC, substantial temperature increases would result in a variety of impacts to the people, economy, and environment of California. These impacts would result from a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming. These impacts are described below.

Public Health. Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to O_3 formation are projected to increase by 25 to 35 percent under the lower warming range and 75 to 85 percent under the medium warming range. In addition, if global background O_3 levels increase as is predicted in some scenarios, it may become impossible to meet local air quality standards. An increase in wildfires could also occur, and the corresponding increase in the release of pollutants including $PM_{2.5}$ could further compromise air quality. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent of GHG emissions are not significantly reduced.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases (such as malaria, dengue fever, yellow fever, and encephalitis) may increase, such as those spread by mosquitoes and other disease-carrying insects.

Water Resources. A vast network of reservoirs and aqueducts capture and transport water throughout the State from Northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada mountain snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages. In addition, if temperatures continue to rise

more precipitation would fall as rain instead of snow, further reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. The State's water resources are also at risk from rising sea levels. An influx of seawater would degrade California's estuaries, wetlands, and groundwater aguifers.

Agriculture. Increased GHG and associated increases in temperature are expected to cause widespread changes to the agricultural industry, reducing the quantity and quality of agricultural products statewide. Significant reductions in available water supply to support agriculture would also impact production. Crop growth and development will change as will the intensity and frequency of pests and diseases.

Ecosystems/Habitats. Continued global warming will likely shift the ranges of existing invasive plants and weeds, thus alternating competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Continued global warming is also likely to increase the populations of and types of pests. Continued global warming would also affect natural ecosystems and biological habitats throughout the State.

Wildland Fires. Global warming is expected to increase the risk of wildfire and alter the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State.

Rising Sea Levels. Rising sea levels, more intense coastal storms, and warmer water temperatures will increasing threaten the State's coastal regions. Under the high warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. A sea level risk of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten levees and inland water systems, and disrupt wetlands and natural habitats.

4.7.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to GHGs, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.7.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to GHGs are considered significant if any of the following occur:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As discussed in Section 15064.4 of the CEQA Guidelines, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

Use a model or methodology to quantify GHG emissions resulting from a project, and which
model or methodology to use. The lead agency has discretion to select the model or methodology
it considers most appropriate provided it supports its decision with substantial evidence. The lead

agency should explain the limitations of the particular model or methodology selected for use; and/or

2) Rely on a qualitative analysis or performance based standards.

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- 1) The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- 3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Different agencies and studies estimate different goals for reduction of emissions to achieve 1990 levels by the year 2020, as set forth in AB 32. Some agencies have estimated a reduction of 28 to 29 percent, based on the ARB's analysis that statewide 2020 business as usual GHG emissions would be 596 MMT CO₂e, with 1990 emissions of 427 MMTCO₂e, for a reduction of 28.35 percent (ARB 2010).

The Air Quality/Greenhouse Gas Report prepared by OB-1 Air Analyses (Appendix D of this EIR) proposes the use of the "Tier 3" quantitative thresholds for residential and commercial projects as recommended by the South Coast Air Quality Management District (SCAQMD). The SCAQMD proposes that if a project generates GHG emissions below 3,000 tonnes of carbon dioxide equivalents (tCO₂e), it could be concluded that the project's GHG contribution is not cumulatively considerable and is therefore considered less than significant under CEQA. If the project generates GHG emissions above the threshold, the analysis must identify mitigation measures to reduce GHG emissions.

4.7.2.2 Methodology

Projects that meet the criteria for conducting a climate change analysis are required to conduct a GHG inventory and disclose GHG emissions associated with project implementation and operation under business as usual conditions. Business as usual is defined as the emissions that would have occurred in the absence of reductions mandated under AB 32.

The main source of GHG emissions associated with the projects would be combustion of fossil fuels during construction of the projects. Emissions of GHGs were calculated using the same approach as emissions for overall construction emissions discussed in Chapter 4.3, Air Quality of this EIR. Emission calculations are provided in the Air Quality/Greenhouse Gas Report in Appendix D of this EIR. The potential effects of proposed GHG emissions are by nature global, and have cumulative impacts. As individual sources, GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts.

4.7.2.3 Impact Analysis

IMPACT 4.7-1

Generate Greenhouse Gas Emissions, either Directly or Indirectly, that may have a Significant Impact on the Environment.

Construction of the projects would result in a temporary increase in GHG emissions.

Dixieland East Solar Farm and Dixieland West Solar Farm

During construction, GHG emissions would be generated from operation of both on-road and off-road equipment. Using the methods developed by the SCAQMD when comparing to their adopted GHG thresholds, GHGs are quantified as the sum of annual operational GHG emissions and total construction GHG emissions amortized over 30 years. As shown in Table 4.7-2, the amortized construction emissions for the proposed projects would be 27 tCO₂e. During operations, GHG emissions would be limited to vehicle trips associated with routine maintenance and monitoring activities at the project sites. As shown in Table 4.7-2, operational emissions for the proposed projects would be 18 tCO2e per year. The amortized construction plus annual operation for the proposed projects would be 45 tCO₂e per year. The proposed projects' CO₂ emissions would not exceed SCAQMD's threshold of 3,000 tCO₂e. Therefore, a less than significant impact is identified. A similar scenario would occur during the decommissioning and site restoration stage for each of the projects. GHG emissions would be similar to or less than the emissions presented for construction. Although the proposed projects would not exceed SCAQMD's threshold, consistent with the intent of AB 32, the proposed projects should demonstrate that policies are in place that would assist in providing a statewide reduction in CO2 emissions. Therefore, GHG offset measures are included as Mitigation Measures GHG-1 and GHG-2 to provide additional reduction strategies to further improve air quality and reduce GHG emissions.

The proposed projects would be a renewable source of energy that could displace electricity generated by fossil fuel combustion and provide low-GHG electricity to consumers. Of the potential fossil fuels typically used for power generation, natural gas is one of the cleanest. To provide a conservative estimate, the Air Quality/Greenhouse Gas Report prepared for the projects, estimated emissions that would be generated from an equivalent amount of energy by natural gas generators to estimate the reduction in GHG emissions by electricity displacement by assuming that the solar power displaces electricity generated by dispatchable natural-gas fired combined-cycle power plants and that the projects have a capacity factor of 26 percent. Approximately 5 MW generated by the proposed projects would displace 4,258 tCO₂e per year.

TABLE 4.7-2. SUMMARY OF CONSTRUCTION AND OPERATIONAL CO₂ EMISSIONS

Phase	Source	tCO₂e per year
Construction	DESF	366.4
	DWSF	451.4
	SEPV Project Construction Total	818.0
	Amortized over 30 years	27.0
Operation	DESF	9.0
	DWSF	9.0
	SEPV Project Operational Total	18.0
Total Annual Emissions		45.0
Annually Displaced Emissions		(4,258)
Net Project GHG Emissions		(4,213)

4.7-10

Source: OB-1 Air Analyses 2015.

Mitigation Measure(s)

The following mitigation measures are required for DESF and DWSF.

GHG-1 Diesel Equipment (Compression Ignition) Offset Strategies

- a. Use electricity from power poles rather than temporary diesel power generators.
- b. Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- c. Construction equipment used for the project should utilize EPA Tier 2 or better engine technology (requirement under Mitigation Measure AQ-1 as described in Chapter 4.3, Air Quality of this EIR).

GHG-2 Vehicular Trip (Spark Ignition) Offset Strategies

- a. Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e., post transit schedules/routes).
- b. Help construction employees "ride share" by posting commuter ride sign-up sheets, employee home, zip code, map, etc.
- c. When possible, arrange for single construction vendor who makes deliveries for several items.
- d. Plan construction delivery routes to eliminate unnecessary trips.
- e. Keep construction vehicles well maintained to prevent leaks and minimize emissions.

Significance After Mitigation

Although the proposed projects would not exceed SCAQMD's threshold, Mitigation Measures GHG-1 and GHG-2 would provide additional reduction strategies to further improve air quality and reduce GHG emissions. Implementation of Mitigation Measure GHG-1 would reduce emissions by 40-60 percent. Mitigation Measure GHG-2 would reduce emissions by 30-70 percent. A **less than significant** impact is identified. Additionally, project construction would adhere to Mitigation Measures AQ-1 and AQ-2 outlined in Chapter 4.3, Air Quality of this EIR, further reducing GHG emissions.

IMPACT 4.7-2

Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases.

The projects would generate additional solar power in order to meet the state of California's goals for the Renewable Portfolio Standard, which has been identified by the state as a means of meeting the goals of AB 32 to reduce emissions to 1990 levels by the year 2020. Therefore, the projects would not conflict with applicable plans, policies, or regulations.

Dixieland East Solar Farm and Dixieland West Solar Farm

As discussed in Impact 4.7-1, the projects would generate a relatively small amount of GHG emissions. One of the critical complementary measures directed at emission sources that are included in the capand-trade program is the RPS, which places an obligation on electricity supply companies to produce 33 percent of their electricity from renewable energy sources by 2020. A key prerequisite to reaching the target would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The projects would help the State meet this goal by generating up to 5 MW of power to California's current renewable portfolio. Therefore, the projects would help the state meet its goal under AB 32. The projects would therefore not conflict with the goals of AB 32 in reducing emissions of GHG. Neither the County of Imperial or ICAPCD have any specific plans, policies, nor regulations adopted for reducing the emissions of GHGs. However, since the long-term, operational GHG emissions are minimal and the construction emissions are short-term, the proposed projects would not conflict with any applicable plan, policy, or regulation adopted for reducing the emissions of GHGs. A less than significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.7.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration of the project sites would result in CO2e emissions below allowable thresholds. Although the proposed projects would not exceed SCAQMD's threshold, consistent with the intent of AB 32, the proposed projects should demonstrate that policies are in place that would assist in providing a statewide reduction in CO₂ emissions. Mitigation Measures GHG-1 and GHG-2 would provide additional reduction strategies to further improve air quality and reduce GHG emissions. Additionally, construction activities during decommissioning and restoration would adhere to Mitigation Measures AQ-1 and AQ-2 outlined in Chapter 4.3, Air Quality of this EIR, further reducing GHG emissions. Therefore, impacts are considered less than significant.

Residual

Mitigation Measures GHG-1, GHG-2, AQ-1 and AQ-2 would further the assist the proposed projects' consistency with the intent of AB 32. As described in this section, the projects do not result in significant GHG emissions impacts. Mitigation Measures GHG-1 and GHG-2 have been added to provide additional reduction strategies to further improve air quality and reduce GHG emissions, even though a significant impact was not identified. Operation of the projects, subject to the provision of a conditional use permit (CUP), would generally be consistent with AB 32. Based on these circumstances, the projects would not result in any residual significant and unavoidable impacts with regards to global climate change.

4.7-12

4.8 HAZARDS AND HAZARDOUS MATERIALS

Information contained in this section is summarized from the Phase I Environmental Site Assessment (Phase I ESA) Report Dixieland East Solar Project (April 2015) and Phase I Environmental Site Assessment (Phase I ESA) Report Dixieland West Solar Project (April 2015), prepared by GS Lyon Consultants, Inc. (GS Lyon). The Phase I ESAs prepared for the projects sites were used to assess the potential hazards and hazardous materials found on-site or adjacent to the project sites. These documents are included in Appendix H of this Environmental Impact Report (EIR). This section addresses potential hazards and hazardous materials for construction and operational impacts.

4.8.1 Environmental Setting

The project area is located in an agriculturally zoned area of Imperial County. However, the project sites and surrounding area (west of the canal) have not been actively cultivated as agricultural land within recent years. The potential for an accident is increased in regions near major arterial roadways or railways that transport hazardous materials and in regions with agricultural or industrial facilities that use, store, handle, or dispose of hazardous materials.

Historical Review

Environmental Data Research, Inc. (EDR) of Shelton, Connecticut was contracted by GS Lyon to complete a database search of federal, state, local, and tribal environmental records containing information regarding hazardous materials occurrences on or within a one-mile radius of the project sites. Included in the EDR report were historical topographic maps, historical aerial photographs, historical telephone, and city directories. The historical data was reviewed to evaluate potentially adverse environmental conditions resulting from previous ownership, and land uses associated with the project sites. Additionally, state and federal regulatory lists containing information regarding hazardous materials on or within a one-mile radius (buffer zone) of the project sites were reviewed. Results of the background review are presented in the Phase I ESAs prepared by GS Lyon (Appendix H).

Dixieland East Solar Farm

According to the historic aerial photographs (1949, 1953 and 1978), the project site was undeveloped desert land until 1984. The 1984 aerial photograph shows the site being utilized as an agricultural field, now out of production. It is unknown how long the site was used for agricultural purposes and no aerial photographs were found to show the site in agricultural production. From 1984 to present the site was out of agricultural production and native desert plant inhabited the site. To the west of the DESF, the Imperial Irrigation District (IID) substation can be seen from 1949 to present. The Centinela State Prison located north of the site was built in approximately 1989. No building structures within the site have been documented.

Due to the rural developed nature of the sites and vicinity, the Sanborn fire maps did not cover the project site. No additional information was obtained from the 1975 and 1976 USGS 7.5 Min. Plaster City, CA Quadrangle topographic maps.

Dixieland West Solar Farm

According to historic aerial photographs (1949, 1953, 1978, 1984, 1996, 2002, 2006 and 2010), the project site was undeveloped land. As previously described, the IID substation to east of the project has been observed since 1949.

Due to the rural developed nature of the sites and vicinity, the Sanborn fire maps did not cover the project site. No additional information was obtained from the 1975 and 1976 USGS 7.5 Min. Plaster City, CA Quadrangle topographic maps.

Site Reconnaissance

A visual site reconnaissance was conducted within the project area by GS Lyon on, April 7, 2015. The site visit consisted of visual observations of surficial conditions at the site and observation of adjoining properties to the extent that they were visible from public areas. Additionally, the reconnaissance also included site observations for the potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination.

4.8.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

4.8.1.1.1 Federal

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over 5 years, \$1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified.

Emergency Planning Community Right-to-Know Act of 1986 (42 USC 11001 et seq.)

The Emergency Planning Community Right-to-Know Act (EPCRA) was included under the Superfund Amendments and Reauthorization Act (SARA) law and is commonly referred to as SARA Title III. EPCRA was passed in response to concerns regarding the environmental and safety hazards posed by the storage and handling of toxic chemicals. These concerns were triggered by the disaster in Bhopal, India, in which more than 2,000 people suffered death or serious injury from the accidental release of methyl isocyanate. To reduce the likelihood of such a disaster in the U.S., Congress imposed requirements on both states and regulated facilities. EPCRA establishes requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and "Community Right-to-Know" reporting on hazardous and toxic chemicals. SARA Title III requires states and local emergency planning groups to develop community emergency response plans for protection from a list of Extremely Hazardous Substances (40 CFR 355). The Community Right-to-Know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, their uses, and releases into the environment. In California, SARA Title III is implemented through the California Accidental Release Prevention (CalARP).

Federal Insecticide, Fungicide and Rodenticide Act

The objective of Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) is to provide federal control of pesticide distribution, sale, and use. All pesticides used in the United States must be registered (licensed) by EPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling.

Federal Water Pollution Control Act (Clean Water Act)

The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. The Oil Spill Prevention, Control, and Countermeasures (SPCC) Program of the CWA specifically seeks to prevent oil discharges from reaching waters of the United States or adjoining shorelines. Further, farms are subject to the SPCC rule if they:

- Store, transfer, use, or consume oil or oil products, and
- Could reasonably be expected to discharge oil to waters of the United States or adjoining shorelines. Farms that meet these criteria are subject to the SPCC rule if they meet at least one of the following capacity thresholds:
 - Aboveground oil storage capacity greater than 1,320 gallons, or
 - Completely buried oil storage capacity greater than 42,000 gallons.

However, the following are exemptions to the SPCC rule:

- Completely buried storage tanks subject to all the technical requirements of the underground storage tank regulations.
- Containers with a storage capacity less than 55 gallons of oil.
- Wastewater treatment facilities.
- Permanently closed containers.
- Motive power containers (e.g., automotive or truck fuel tanks).

Hazardous Materials Transport Act – Code of Federal Regulations

The Hazardous Materials Transportation Act was published in 1975. Its primary objective is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce by improving the regulatory and enforcement authority of the Secretary of Transportation. A hazardous material, as defined by the Secretary of Transportation is, any "particular quantity or form" of a material that "may pose an unreasonable risk to health and safety or property." (EPA 2011)

Occupational Safety and Health Administration

Occupational Safety and Health Administration's (OSHA) mission is to ensure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. OSHA standards are listed in 29 CFR Part 1910.

The OHSA Process Safety Management of Highly Hazardous Chemicals (29 CFR Part 110.119) is intended to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals by regulating their use, storage, manufacturing, and handling. The standard intends to accomplish its goal by requiring a comprehensive management program integrating technologies, procedures, and management practices.

Resource Conservation and Recovery Act

The goal of the Federal Resource Conservation and Recovery Act (RCRA), a federal statute passed in 1976, is the protection of human health and the environment, the reduction of waste, the conservation of energy and natural resources, and the elimination of the generation of hazardous waste as expeditiously as possible. The Hazardous and Solid Waste Amendments (HSWA) of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

4.8.1.1.2 State

California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The Division of Oil, Gas, and Geothermal Resources (DOGGR) was formed in 1915 to address the needs of the state, local governments, and industry by regulating statewide oil and gas activities with uniform laws and regulations. The Division supervises the drilling, operation, maintenance, and plugging and abandonment of onshore and offshore oil, gas, and geothermal wells, preventing damage to: (1) life, health, property, and natural resources; (2) underground and surface waters suitable for irrigation or domestic use; and (3) oil, gas, and geothermal reservoirs. The Division's programs include: well permitting and testing; safety inspections; oversight of production and injection projects; environmental lease inspections; idle-well testing; inspecting oilfield tanks, pipelines, and sumps; hazardous and orphan well plugging and abandonment contracts; and subsidence monitoring.

California Department of Toxic Substances Control

Each year, Californians generate two million tons of hazardous waste. One hundred thousand privatelyand publicly-owned facilities generate one or more of the 800-plus wastes considered hazardous under California law. Properly handling these wastes avoids threats to public health and degradation of the environment.

The Department of Toxic Substances Control (DTSC) regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. Approximately 1,000 scientists, engineers, and specialized support staff make sure that companies and individuals handle, transport, store, treat, dispose of, and clean-up hazardous wastes appropriately. Through these measures, DTSC contributes to greater safety for all Californians, and less hazardous waste reaches the environment.

On January 1, 2003, the Registered Environmental Assessor (REA) program joined DTSC. The REA program certifies environmental experts and specialists as being qualified to perform a number of environmental assessment activities. Those activities include private site management, Phase I Environmental Site Assessments, risk assessment and more.

California Division of Occupational Safety and Health

The California Division of Occupational Safety and Health (Cal-OSHA) protects workers and the public from safety hazards through its Cal-OSHA programs and provides consultative assistance to employers. Cal-OSHA issues permits, provides employee training workshops, conducts inspections of facilities, investigates health and safety complaints, and develops and enforces employer health and safety policies and procedures.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal-EPA) and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law.

California Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services, which coordinates the responses of other agencies including Cal-EPA, the California Highway Patrol, the California Department of Fish and Wildlife, the Regional Water Quality Control Board (RWQCB), Imperial County Sheriff's Department, Imperial County Fire Department (ICFD), and the City of Imperial Police Department.

4.8.1.1.3 Local

Imperial County General Plan

The Seismic and Public Safety Element identifies goals and policies that will minimize the risks associated with natural and human-made hazards, and specify the land use planning procedures that should be implemented to avoid hazardous situations. The purpose of the Seismic and Public Safety Element is directly concerned with reducing the loss of life, injury, and property damage that might result from disaster or accident. In addition, the Element specifies land use planning procedures that should be implemented to avoid hazardous situations. The policies listed in the Seismic and Public Safety Element are not applicable to the proposed project, as they address human occupancy development. The proposed project is a solar project and does not propose residential uses.

Imperial County Public Health Department

Hazardous Materials and Medical Waste Management

DTSC was appointed the Certified Unified Program Agency (CUPA) for Imperial County in January 2005. The Unified Program is the consolidation of six state environmental programs into one program under the authority of a Certified Unified Program Agency. The CUPA inspects businesses or facilities that handle or store hazardous materials; generate hazardous waste; own or operate ASTs or USTs; and comply with the CalARP Program. The CUPA Program is instrumental in accomplishing this goal through education, community and industry outreach, inspections and enforcement.

4.8.1.2 Existing Conditions

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites are composed of agriculturally zoned land encompassing approximate 53 acres total. Between 1979 and 1984, the DESF site was used as agricultural production. It is unknown when the production ceased. DWSF is desert land with no signs of past uses on-site. Additionally no buildings were observed on either site. Currently both project sites are vacant.

Residential Areas

Surrounding land uses consist of vacant desert land with rural lots, agriculture, and approximately 31 residences. The nearest sensitive receptor is located 175 feet (between the project sites) from the nearest project boundary. A total of eight residences are located approximately east of the projects across the Westside Main Canal, with the nearest located 350 feet from the nearest construction area. Two residences are located approximately 350 feet south of the project sites. A residential development (Imperial Lakes Water Ski Community) is located west of DWSF that has a SPA zoning designation which includes 20 residences (mobile homes), and is zoned recreational. The eastern boundary of the SPA is approximately 1,500 feet from the DWSF western boundary.

Drainage Features

Drainage features have been observed within the DESF site. DESF is separated to the north and south by a concrete lined irrigation ditch that runs along the elevated embankment from the Westside Main Canal to the west of the property. According to the pattern on the soil surface, evidence of past agricultural use are visible south of the ditch. At the east end of the ditch, a set of pumps and electrical transformer feed a 12 inch diameter PVC pressurized water line to the Imperial Lakes Water Ski Community, 1,500 feet from the DWSF western boundary

4.8.1.2 Existing Environmental Hazards

Underground and Aboveground Storage Tanks, Drums, or Containers

No USTs and ASTs were observed within the project sites during the site reconnaissance conducted by GS Lyon. No drums or storage containers, nor any open or damaged containers containing unidentified substances were observed at the subject site (DESF).

Surface Staining

No evidence of stained soil or pavement was noted on the properties (DESF). DESF has the potential for hydro carbon due to the machinery use associated with the land during agriculture use sometime between 1978 and 1984. In addition, hydrocarbons can migrate from on-road mobile sources and non-road mobile sources. Typical non-road mobile sources of hydrocarbon are primarily gasoline equipment or diesel equipment. Hydrocarbons are a precursor to ground-level ozone, a serious air pollutant. A key component of smog, ground-level ozone is formed by reactions involving hydrocarbons and nitrogen oxides in the presence of sunlight.

Sewer/Water

No septic systems were observed on the properties. The DESF site is separated to the north and south by a concrete lined irrigation ditch that runs along an elevated embankment from the Westside Main Canal to the west side of the property. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps no longer supply water to the ditch, but feed a 12 inch diameter PVC pressurized water line that supplies water to the Imperial Lakes Water Ski Community, 1,500 feet from the DWSF western boundary.

Groundwater and Wells

Ground water in the site area is brackish and is estimated to be at depth of 10-15 feet below the ground surface for the DESF site. Ground water depth for DWSF is estimated to be 25-30 feet below the ground surface. Depth to the groundwater may fluctuate due to geologic and weather conditions, and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the west within the DESF and to the east within DWSF.

Electromagnetic Fields

Electric and magnetic fields (EMF) are areas of energy that surround any electrical device. Power lines, electrical wiring, computers, televisions, hair dryers, household appliances and everything else that uses electricity are sources of EMF. The magnetic field is not blocked by buildings so outdoor sources like power lines can add to the EMF inside your home. However, the field decreases rapidly with distance so that most homes are too far from high voltage lines to matter.

The nearest residences to the DESF site are east of the canal along Foxglove Street, and in a trailer located at the northwest corner of the West Evan Hewes Highway and Canal Street. Another single family residence adjacent to DESF is approximately 120 feet west of the western edge of the site, adjacent to the IID substation. Approximately 1,500 feet west of DWSF is the Imperial Lakes Water Ski Community which includes 20 residences surrounding two man-made lakes. However, less than 30% of the total area for each site will be developed. The California Department of Health Services (DHS), California Electric and Magnetic Fields Program provides information regarding known possible health effects from EMF created by the use of electricity. DHS references the National EMF Research and Public Information Dissemination Program, established by Congress as part the Energy Policy Act of 1992, which has published its findings concluding evidence of the risk of cancer from EMF around power lines is weak. The report recognizes that EMF exposure "cannot be recognized as entirely safe" but "believes that the probability that EMF exposure is truly a health hazard is currently small" with "marginal scientific support that exposure to this agent is causing any degree of harm. Furthermore, in a recent California Public Utilities Commission (CPUC) issued Decision D.06-01-042, the CPUC stated "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences." Therefore, any potential health risk associated with EMF is considered low.

Pursuant to California Environmental Quality Act (CEQA) Guideline 15145 "If, after a thorough investigation, a lead agency finds that a particular impact is too speculative for evaluation, the lead agency should note its conclusion and terminate discussion of the impact." Because there are no conclusive studies on EMF impacts, it is too speculative to evaluate further in this EIR.

4.8.1.2.3 Hazardous Building Materials and Pesticides

Hazardous building materials and pesticides are associated with any older buildings due to their age and the agricultural land uses. As shown in Figure 4.3-1, there are a total of two single family residences adjacent to the DESF site, and 20 residences located within the Imperial Lakes Water Ski Community located approximately 1,500 feet from the DWSF western boundary. Within the DESF site, north of the concrete lined ditch, old barb wire and wood post fencing likely to have been used for livestock containment were observed; however no buildings associated with agricultural use have been observed on either site. Due to lack of development of the projects sites, GS Lyon found that the risk levels of asbestos and/or lead was low.

Asbestos

Asbestos is the name given to a number of naturally occurring, fibrous silicate minerals mined for their useful properties, such as thermal insulation, chemical and thermal stability, and high tensile strength. Asbestos is made up of microscopic bundles of fibers that may become airborne when asbestoscontaining materials are damaged or disturbed. When these fibers get into the air they may be inhaled

into the lungs, where they can cause significant health problems. The Cal-OSHA defines asbestos containing materials as any material that contains 0.1 percent asbestos by weight. Asbestos is commonly found in old buildings built between the 1940s and the mid-1970s.

Buildings on agricultural establishments and agribusinesses may contain asbestos or ACMs. Used for insulation and as a fire retardant, asbestos and ACMs can be found in a variety of building construction materials, including pipe and furnace insulation materials, asbestos shingles, millboard, textured paint and other coating materials, and floor tiles. Asbestos may also be found in vehicle brakes. Buildings built in the 1960s are more likely to have asbestos-containing sprayed- or troweled-on friable materials than other buildings (EPA 2012). Given the absence/lack of development of the projects sties, the risk levels of asbestos are low.

Pesticides and Herbicides

Dichlorodiphenyltrichloroethane/Dichlorodiphenyldichloroethylene (DDT/DDE) and Dichlorodiphenyldichloroethane (DDD) (a degradation byproduct of DDT) was developed as the first of the modern synthetic insecticides in the 1940s. It was initially used with great effect to combat malaria, typhus, and the other insect-borne human diseases among both military and civilian populations and for insect control in crop and livestock production, institutions, homes, and gardens. DDT's quick success as a pesticide and broad use in the United States and other countries led to the development of resistance by many insect pest species (EPA 2012). Intially, DDT was regulated by the US Department of Agriculture from the late 1950s to the 1960s. The EPA was formed in 1970 and subsequent regulatory responsibility of DDT was transferred over. Although the EPA issued a cancellation order in 1972 for DDT, due to its ability to accumulate in fatty tissue and it's persistence in the environment, residues of concern from historical use still remain (EPA 2012). DDT and its byproducts bind strongly to soils and as a result, can remain in some soils for a long time, potentially hundreds of years. The length of time that DDT will last in soil depends on many factors including temperature, type of soil, and moisture content of soil. DDT persists for a much shorter time in tropical environments where chemical evaporation and microorganism degradation are accelerated. Additionally, DDT will persist for a much shorter length of time in areas where soils are routinely flooded or are moist than where soils are arid (Agency for Toxic Substances and Disease Registry 2002). Because DDT binds to soils, there's a potential for it to enter into lakes and rivers through runoff. However, although DDT or its breakdown products are still present in some air, water, and soil samples, levels in most air and water samples are presently so low that exposure is of little concern.

Based on historical information, DESF was observed to have an agricultural field for a brief period between 1978 and 1984, it is unknown how long the site was used for agricultural use and no aerial photographs could be found showing the site being in agricultural production. The predominant agriculture cultivated with DESF is also unknown. However, pesticides/herbicides typically used for farming in the Imperial Valley are likely to have been used during this time period. Although many agricultural fields are burned after crop removal (wheat stubble, asparagus, etc.) pesticide residue can still be found in soils. In addition, pesticides and herbicides can migrate via surface run-off. According to the Phase I ESA, these insecticides may be present in the soils within the project sites, the concentrations of pesticide residue levels typically found withi agricultural soils are less than 25 percent of USEPA prelimnary remdiation goals (PRGs). Historical records did not reveal development or use of the DWSF site for agriculture production.

Lead

Lead is a highly toxic metal that was used until the late 1970s in a number of products, most notably paint. Lead may cause a range of health effects, from behavioral problems and learning disabilities to seizures and death. Primary sources of lead exposure are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated soil. Lead contamination can also come from cars built prior to the early 1980s.

Lead-based paint on an agricultural establishment or agribusiness farm will typically be found on interiors and exteriors of buildings constructed before 1978. During renovation and demolition, paint removal has the potential to impact human health and the environment as fibers, dust, and paint chips are released. Paint chips and dust can cause indoor air contamination during renovation and soil contamination from demolition or improper disposal (EPA 2012). Given the absence/lack of development of the projects sties, the risk levels of lead are low.

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs) were manufactured from 1932 until the manufacture of the product was banned in 1978. Because of its versatility (non-flammability, chemical stability, high boiling point, and electrical insulation properties), PCBs were used in various industrial and commercial applications: electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other industrial applications (EPA 2012). Although no longer used in the US, there is the potential for PCBs to be found electrical transformers manufactured before 1979.

Pole-mounted sealed transformers owned and maintained by the IID are located on the project sites. The IID has replaced all transformers that contained PCBs. No evidence of leakage from the transformers within the boundaries of the project sites was observed by GS Lyon.

4.8.1.2.4 Environmental Database Research

Environmental Data Research, Inc. (EDR) of Shelton, Connecticut was contracted by GS Lyon to complete a database search of federal, state, local, and tribal environmental records containing information regarding hazardous materials occurrences in or within the prescribed one-mile radius of the project sites in April 2015. Not all sites or facilities are identified in the database records can be accurately located in relation to projects due to incomplete information and are therefore referred to as "orphan sites" by EDR. EDR identified several orphan sites and based on a drive-by reconnaissance of the vicinity surrounding the project sites, none were within the specified Standard radii. One orphan site was reported. The listed site is the US Gypsum Co. located on Evan Hewes Highway approximately 4 miles west of DESF and 3.75 miles west of DWSF. Therefore, the listed orphan site does not pose a risk to either project site.

An additional records search was conducted. Local planning agencies called Certified Unified Program Agencies (CUPA) consolidates, coordinates, and ensures consistent administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. The Local department of Toxic Substances Control (DTSC) Imperial CUPA was contacted in April 2015, and found no records of hazardous substance releases on or within the projects sites.

4.8.1.2.5 Airport Land Use Compatibility Plan

As discussed in Section 4.10, Land Use and Planning, the northern boarder of the project area is located approximately 6.0 miles southwest of the Naval Air Facility El Centro. According to the County Airport Land Use Compatibility Plan (ALUCP) for the Naval Air Facility El Centro, no portion of the project area is located within the Naval Air land use compatibility zones (Imperial County ALUCP 1996).

4.8.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project-related impacts related to hazards and hazardous materials, the methodology employed for the evaluation, and mitigation requirements, if necessary.

4.8.2.1 Thresholds of Significance

Consistent with the CEQA Guidelines and the professional judgment of the County's staff and environmental consultants, the projects would result in a significant impact on the environment if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; and
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.8.2.2 Methodology

This analysis evaluates the potential for the projects, as described in Chapter 3, Project Description to result in significant impacts related to hazards and hazardous materials on or within the one-mile buffer zone of the project sites. This analysis considers whether these conditions would result in an exceedance of one or more of the applied significance criteria as identified above.

As indicated in the environmental setting, two separate Phase I ESAs have been prepared for the DESF and DWSF project sites, including a one-mile buffer surrounding each site. The Phase I ESAs area included as Appendix H of this EIR. The analysis prepare for this section also relied on information contained on the EPA's website pertaining to potential hazardous materials that may be found on-site. The information obtained from these sources was reviewed and summarized to present the existing conditions, in addition to identifying potential environmental impacts, based on the significance criteria presented above. Impacts associated with hazards and hazardous materials that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, duration of project construction, and related activities. Conceptual site plans for the projects were also used to evaluate potential impacts. These conceptual exhibits are provided in Section 3.0, Project Description (see Figures 3-5 through 3-7).

4.8.2.3 Impact Analysis

Impact 4.8-1 Possible Risk to the Public or Environment through Routine Transport, Use, or Disposal of Hazardous Materials.

The projects would not result in a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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Although considered minimal, it is anticipated that the projects will generate the following materials during construction, operation, and long-term maintenance: insulating oil (used for electrical equipment; lubricating oil (used for maintenance vehicles); various solvents/detergents (equipment cleaning); and gasoline (used for maintenance vehicles). These materials have the potential to be released into the environment as a result of natural hazard (i.e., earthquake) related events, or due to human error. However, all materials contained on-site will be stored in appropriate containers (not to exceed a 55-gallon drum) protected from environmental conditions, including rain, wind, and direct heat and physical hazards such as vehicle traffic and sources of heat and impact. In addition, if the on-site storage of hazardous materials necessitate, at any time during construction and/ operations and long term maintenance, quantities in excess of 55-gallons, a Hazardous Material Management Program (HMMP) or would be required. The HMMP developed for the projects will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage;
- Emergency response;
- Spill control and prevention;
- Employee training; and
- Record keeping and reporting.

Additionally, hazardous material storage and management will be conducted in accordance with requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, and CUPA for storage and handling of hazardous materials. Further, construction activities would occur according to OSHA regulatory requirements; therefore, it is not anticipated that the construction activities for the proposed projects would release hazardous emissions or result in the handling of hazardous or acutely hazardous materials, substances, or waste. This could include the release of hazardous emissions, materials, substances, or wastes during operational activities. With the implementation of an HMMP and adherence to requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, OSHA regulatory requirements and CUPA would reduce the impact to a level of less than significant.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.8-2

Possible Risk to the Public or Environment through Release of Hazardous Materials.

The project may result in an accidental release of hazardous materials into the environment from project-related activities.

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The DESF site has previously been used in the past for agricultural purposes. Typical agricultural practices in the Imperial Valley consist of aerial and ground application of pesticides and the application of chemical fertilizers to both ground and irrigation water. According to the professional opinion of GS Lyon, although these insecticides may be present in the soil within the project study areas, the residue levels typically found within agricultural soils are less than 25 percent o USEPA preliminary remediation goals.

The FIFRA provides federal control of pesticide distribution, sale, and use. All pesticides used in the United States must be registered (licensed) by the EPA. Registration assures that pesticides will be properly labeled and that, if used in accordance with specifications, they will not cause unreasonable harm to the environment. Use of each registered pesticide must be consistent with use directions contained on the label or labeling. The construction phase, operations and long term maintenance of the facility would not result in additional application of pesticides or fertilizers. Therefore, a **less than significant** impact has been identified for this issue area.

4.8-11

Hazardous Materials

The Phase I ESAs for the DESF and DWSF sites did not identify and on-site RECs, ASTs, or USTs. Interviews were conducted with individuals familiar with the subject property in regard to the historical use and to identify potential RECs existing on the site. The local DTSC Imperial CUPA was contacted concerning hazardous substance releases for the project site and surrounding properties, and no records were found for the site address. Therefore, **less than significant** impact is identified for this issue area.

Lead and Asbestos

According to records research and the reconnaissance survey, no buildings were identified to have been built on either the DESF or DWSF sites. Due to the lack of development of the subject properties, the risk of lead and asbestos are low. Therefore, **less than significant** impact is identified.

Oil, Gas, and Geothermal Wells

As discussed, according to records search, no wells have been located within or adjacent to the project sites. Therefore, hazards associated with the potential exposure of wells are considered **less than significant.**

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Hazardous Emissions or Hazardous Materials Substances, or Waste within ¼ mile of an Existing or Proposed School.

The projects would not pose a risk to nearby (within ¼ mile) schools or proposed school facilities.

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The project sites are not within ¼ mile of any existing or proposed schools. Therefore, **no significant impact** is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Projects Located on a Site Included on a List of Hazardous Materials Sites Compiled 4.8-4 Pursuant to Government Code Section 65962.5.

The projects are not located on a site included on a list of hazardous materials sites pursuant to Government Code Section 65962.5.

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The project sites are not identified in the EDR report as a hazardous materials site pursuant to Government Code Section 65962.5 and as a result, **no significant impact** has been identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.



IMPACT 4.8-5

Possible Safety Hazard to the Public Residing or Working Within an Airport Land Use Plan or Within Two Miles of a Public Airport or Public Use Airport.

The projects are not located within an airport land use plan or within two miles of a public airport.

Dixieland East Solar Farm and Dixieland West Solar Farm

The closest airport to the project area is the Naval Air Facility El Centro, which is approximately 6.0 miles northeast. The nearest public airport is the Imperial County Airport located approximately 11.6 miles northeast of the project area. The project components are not anticipated to have any impacts related to weather surveillance radar, long-range radar, or military operations, and do not include proposals for the construction of transmission towers. Chapter 4.10, Land Use and Planning addresses site adjacency with the Naval Air Facility El Centro ALCUP. The sites are not physically located within any of the influence zones within the ALUCP. Therefore, this impact is considered **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Possible Safety Hazard to the Public Residing or Working Within Proximity to a Private

4.8-6 Airstrip.

The projects are not within proximity to a private airstrip would not create safety hazards.

Dixieland East Solar Farm and Dixieland West Solar Farm

There are no private airstrips located within the vicinity of the project area. Therefore the project will not interfere or conflict with commercial aerial application operations associated with farming eastside of the Westside Main Canal. **No significant impact** has been identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT

Possible Impediment to Emergency Plans.

4.8-7

The projects would not interfere with an adopted emergency response plan or emergency evacuation plan.

Dixieland East Solar Farm and Dixieland West Solar Farm

The Imperial County Draft Operational Area Emergency Operations Plan (July 2007) does not identify specific emergency roadway routes as part of their emergency operations plan (EOP). The City of El Centro General Plan, Safety Element, includes a Safety Plan which identifies major access routes as I-8, SR 111, SR 86, and Evan Hewes Highway (SR 80). The projects are not expected to impair implementation of, or physically interfere with and adopted emergency response plan or emergency evacuation plan. The proposed project is located in a rural area and is relatively small in scale with less than 30 percent of the total area of both sites being developed. The impacted acreage of DESF and DWSF are significantly less due to setbacks, access roads, and spacing between array rows. Evan Hewes Highway is the main arterial that will be impacted by the project; however, the project setbacks from the highway include a 240 foot setback for DWSF and a 400 foot setback for DESF. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, a **less than significant** impact is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.



IMPACT 4.8-8

Possible Risk to People or Structures Caused by Wildland Fires.

The project sites are not located in an area susceptible to wildland fires.

Dixieland East Solar Farm and Dixieland West Solar Farm

According to the Draft Cal Fire Hazard Severity Zones in Imperial County Land Responsibility Area Map (California Department of Forestry and Fire Protection 2007), the project area is located within a local responsibility area, which is identified as a "moderate" risk area for wildland fires. Because the proposed projects are not located in proximity to a wildland fire hazard area, a less than significant impact is identified. The fire risk at the project site is moderate, and the potential for a major fire to occur in the area surrounding the project site is low to moderate. Therefore, a **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.8.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

During decommissioning and restoration of the project sites, the applicant or its successor in interest would be responsible for the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on each of the project sites. The project applicant anticipates using the best available recycling measures at the time of decommissioning. Any potentially hazardous materials located on the site would be disposed of, and/or remediated prior to construction of the solar facilities. The operation of the solar facilities would not generate hazardous wastes and therefore, implementation of applicable regulations and mitigation measures identified for construction and operations would ensure restoration of the project sites to agricultural uses during the decommissioning process in a manner that would be **less than significant**. Furthermore, decommissioning/restoration activities would not result in a potential impact associated with ALUCP consistency (structures would be removed and the site would remain in an undeveloped condition), wildfires (the project study areas are not susceptible to wildfires), or impediment to an emergency plan (the undeveloped condition as restored, would not not conflict with emergency plans).

Residual

With implementation of applicable mitigation measures, impacts related to the transportation of hazardous materials, abandoned wells, and impacts associated with height exceedance of the transmission towers would be reduced to levels **less than significant**. Based on these circumstances, the proposed projects would not result in residual significant and unmitigable impacts related to hazards and hazardous materials.

4.8-14

4.9 HYDROLOGY/WATER QUALITY

This section provides a description of existing water resources within the project area and pertinent local, state, and federal plans and policies regarding the protection, management, and use of water resources (Section 4.9.1, Environmental Setting). Potential hydrological and water quality effects of the project-related facilities, as described in Chapter 3.0, Project Description are considered in Section 4.9.2 and, if necessary, mitigation is proposed based on the anticipated level of significance. Section 4.9.3 concludes by describing significant residual impacts following the application of mitigation, if any. Information for this section is summarized from the *Preliminary Hydrology Study for SEPV Imperial, LLC Dixieland Photovoltaic Projects* prepared by Fomotor Engineering. This report is included in Appendix I of this Environmental Impact Report (EIR).

4.9.1 Environmental Setting

The project area lies within the Colorado River Basin Region. The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego Counties. The Colorado River Basin Region is divided into seven major planning areas on the basis of different economic and hydrologic characteristics.

The projects are located within the Imperial Valley Planning Area of the Colorado River Basin. The Imperial Valley Planning Area consists of the following hydrological units (HU): Imperial (723.00) comprised of 2,500 square miles in the southern portion of the Colorado River Basin Region, with the majority located in Imperial County; Davies (724.00), located to the east of the project sites, and Amos-Ogilby (726.00), located to the east of the project area. The project sites are located within the Imperial HU.

The Imperial Valley Planning Area's central feature is the flat, fertile Imperial Valley (California Regional Water Quality Control Board, 2014). All watersheds within the Imperial Valley are located within a depression (the Salton Trough), resulting in a closed basin. The highest point is located at the Colorado River Delta in Mexico and the lowest point is located below sea level near the Riverside County line, draining into the Salton Sea. Two hydrologic areas are located within the Imperial HU, the Coyote Wells Hydrological Area (HA) located to the west of the project sites and the Brawley HA, where the project sites are located, as shown in Figure 4.9-1.

The project area is characterized by a typical desert climate with dry, warm winters, and hot, dry summers. Most of the rainfall occurs in conjunction with monsoonal conditions between May and September, with an average annual rainfall of less than 3 inches for the project area. The 10-year, 24-hour estimated precipitation amount for the project sites is 1.8 inches; while the 100-year, 24-hour estimated precipitation is 3 inches (Western Regional Climate Center 2004).

4.9.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

Federal

Federal plans, policies, and regulations that are applicable to the projects are presented below under the following headings.

Clean Water Act

The U.S. Environmental Protection Agency (U.S. EPA) is the lead Federal agency responsible for managing water quality. The Clean Water Act (CWA) of 1972 is the primary Federal law that governs and authorizes the U.S. EPA and the states to implement activities to control water quality. The various elements of the CWA that address water quality and that are applicable to the projects are discussed

4.9-1

below. Wetland protection elements administered by the U.S. Army Corps of Engineers (USACE) under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the United States, are discussed in Chapter 4.4, Biological Resources.

Under Federal law, the U.S. EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the CWA, water quality standards consist of two elements: (1) designated beneficial uses of the water body in question; and (2) criteria that protect the designated uses. Section 304(a) requires the U.S. EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. The U.S. EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The U.S. EPA has delegated the State of California the authority to implement and oversee most of the programs authorized or adopted for CWA compliance through the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act), described below.

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain a water quality certification from the State Water Resources Control Board (SWRCB) in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate.

CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program to control point source discharges from industrial, municipal, and other facilities if their discharges go directly to surface waters. The 1987 amendments to the CWA created a new section of the CWA devoted to regulating storm water or nonpoint source discharges (Section 402[p]). The EPA has granted California primacy in administering and enforcing the provisions of the CWA and the NPDES program through the SWRCB. The SWRCB is responsible for issuing both general and individual permits for discharges from certain activities. At the local and regional levels, general and individual permits are administered by Regional Water Quality Control Boards (RWQCBs).

CWA Section 303(d) Impaired Waters List

CWA Section 303(d) requires states to develop lists of water bodies that will not attain water quality standards after implementation of minimum required levels of treatment by point-source dischargers. Section 303(d) requires states to develop a total maximum daily load (TMDL) for each of the listed pollutants and water bodies. A TMDL is the amount of loading that the water body can receive and still be in compliance with applicable water quality objectives and applied beneficial uses. TMDLs can also act as a planning framework for reducing loadings of a specific pollutant from various sources to achieve compliance with water quality objectives. TMDLs prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows links between loading reductions and the attainment of water quality objectives.

Surface waters in the Imperial Valley Planning Area mostly drain toward the Salton Sea. The New and Alamo Rivers convey agricultural irrigation drainage water from farmlands in the Imperial Valley, surface runoff, and lesser amounts of treated municipal and industrial waste waters from the Imperial Valley. The flow in the New River also contains agricultural drainage, treated and untreated sewage, and industrial waste discharges from Mexicali, Mexico. The State Water Resources Board is in the process of updating the 2012 Section 303 (d) list. Proposed revisions for the Colorado River Basin, Attachment 4 – Proposed new listings, delistings, and modifications to the 303(d) List were reviewed. The impaired water bodies listed on the 303(d) list for the New River Basin include the Imperial Valley Drains (managed by the Imperial Irrigation District), New River, and the Salton Sea. Further discussion of specific pollutant listings is provided in Section 4.9.1.2.

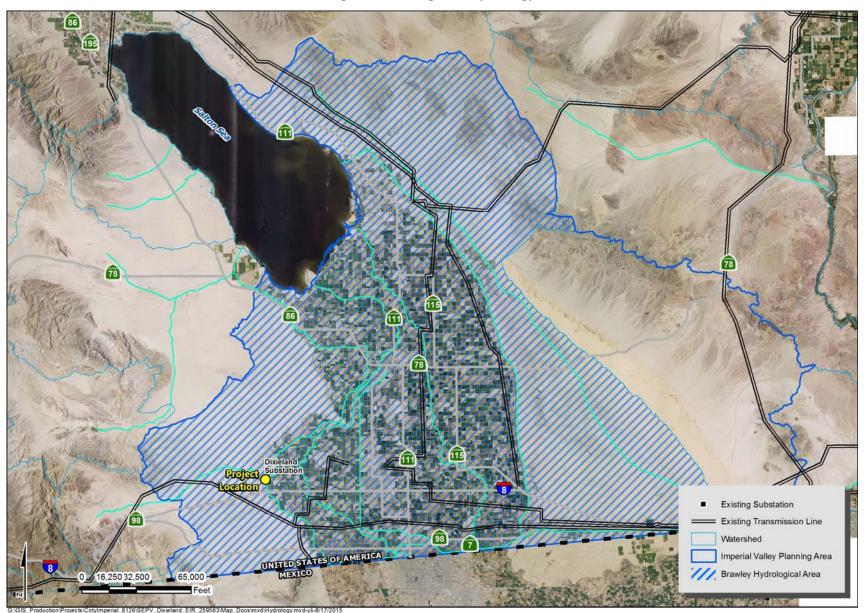


Figure 4.9-1. Regional Hydrology

Antidegradation Policy

The Federal Antidegradation Policy, established in 1968, is designed to protect existing uses, water quality, and national water resources. The Federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

The Federal Anti-Degradation Policy is applicable to the proposed on-site wastewater system and is implemented by the RWQCB and County's Public Health Department.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations that limit development in floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection covered by the FIRMs is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 (0.01) annual exceedance probability [AEP]) (i.e., the 100-year flood event). The project sites are included in FIRM 06025C1675C (FEMA 2008). According to this FIRM, the project sites are contained south of Zone A and outside the limits of the 100-year flood zone (FEMA 2008). Both east and west project sites are west of the Westside Main Canal.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, also known as the California Water Code, is California's statutory authority for the protection of water quality. Under this act, the state must adopt water quality policies, plans, and objectives that protect the state's waters. The act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Water Quality Control Plans and establishment of water quality objectives. Unlike the federal CWA, which regulates only surface water, the Porter-Cologne Act regulates both surface water and groundwater.

Water Quality Control Plan for the Colorado River Basin

The Water Quality Control Plan for the Colorado River Basin (or Basin Plan) prepared by the Colorado River Basin RWQCB (Region 7) identifies beneficial uses of surface waters within the Colorado River Basin region, establishes quantitative and qualitative water quality objectives for protection of beneficial uses, and establishes policies to guide the implementation of these water quality objectives (RWQCB 2014). According to the Basin Plan the beneficial uses established for the Imperial Valley Drains, which include the Westside Main Canal, New River, and the Salton Sea include: industrial service supply; freshwater replenishment; water contact recreation; non-contact water recreation; warm freshwater habitat; wildlife habitat; preservation of rare, threatened, or endangered species; and aquaculture.

California Toxics Rule

Under the California Toxics Rule (CTR), the U.S. EPA has proposed water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The CTR satisfies CWA requirements and protects public health and the environment. The U.S. EPA and the SWRCB have the authority to enforce these standards, which are incorporated into the NPDES permits that regulate the current discharges in the project area.

NPDES General Industrial and Construction Permits

The NPDES General Industrial Permit requirements apply to the discharge of stormwater associated with industrial sites. The permit requires implementation of management measures that will achieve the performance standard of the best available technology economically achievable and best conventional pollutant control technology. Under the statute, operators of new facilities must implement industrial Best Management Practices (BMPs) in the projects' Stormwater Pollution Prevention Plan (SWPPP) and perform monitoring of stormwater discharges and unauthorized non-stormwater discharges. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit) which covers stormwater runoff requirements for projects where the total amount of ground disturbance during construction exceeds one acre. Coverage under a General Construction Permit requires the preparation of a SWPPP and submittal of a Notice of Intent (NOI) to comply with the General Construction Permit. The SWPPP includes a description of BMPs to minimize the discharge of pollutants from the sites during construction. Typical BMPs include temporary soil stabilization measures (e.g., mulching and seeding), storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or stormwater, and using filtering mechanisms at drop inlets to prevent contaminants from entering storm drains. Typical postconstruction management practices include street sweeping and cleaning stormwater drain inlet structures. The NOI includes site-specific information and the certification of compliance with the terms of the General Construction Permit.

Local

County of Imperial General Plan

Due to the economic, biological, and agricultural significance water plays in the Imperial County, the Water Element and the Conservation and Open Space Element of the General Plan contain policies and programs, created to ensure water resources are preserved and protected. Table 4.9-1 identifies General Plan policies and programs for water quality and flood hazards that are relevant to the projects and summarizes the projects' consistency with the General Plan. While this EIR analyzes the projects' consistency with the General Plan pursuant to State California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

County of Imperial Land Use Ordinance, Title 9

The County's Ordinance Code provides specific direction for the protection of water resources. Applicable ordinance requirements are contained in Division 10, Building, Sewer and Grading Regulations, and summarized below.

Chapter 4 - Uniform Plumbing Code. The Uniform Plumbing Code, 1997 Edition, including the appendices, as adopted by the International Association of Plumbing and Mechanical Officials, is incorporated by reference. Section 91004.01, Modification of the Uniform Plumbing Code, of the Ordinance Code includes additional requirements in terms of minimum spacing requirements and minimum septic tank sizing.

TABLE 4.9-1. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN WATER RESOURCES POLICIES

General Plan Policies	Consistency with General Plan	Analysis	
Conservation and Open Space Element			
1) Structural development normally shall be prohibited in the designated floodways. Only structures which comply with specific development standards should be permitted in the floodplain.	Consistent	The projects do not contain a residential component nor would it place housing or other structures within a 100-year flood hazard area.	
Water Element			
The County of Imperial shall make every reasonable effort to limit or preclude the contamination or degradation of all groundwater and surface water resources in the County.	Consistent	Mitigation measures contained in Section 4.9.2.3 will require that the project applicant prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.	
2) All development proposals brought before the County of Imperial shall be reviewed for potential adverse effects on water quality and quantity, and shall be required to implement appropriate mitigation measures for any significant impacts.	Consistent	See response for Water Element Policy 1 above.	

Chapter 10 - Grading Regulations. Section 91010.02 of the Ordinance Code outlines conditions required for issuance of a Grading Permit. These specific conditions include:

- 1. If the proposed grading, excavation or earthwork construction is of irrigatable land, that said grading will not cause said land to be unfit for agricultural use;
- 2. The depth of the grading, excavation or earthwork construction will not preclude the use of drain tiles in irrigated lands;
- 3. The grading, excavation or earthwork construction will not extend below the water table of the immediate area; and
- 4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of one and one-half feet on the horizontal plane to one-foot on the vertical plane, the plans and specifications will provide for adequate safety precautions.

Imperial Irrigation District

The Imperial Irrigation District (IID) is an irrigation district organized under the California Irrigation District Law, codified in Section 20500 et seq. of the California Water Code. Critical functions of IID include diversion and delivery of Colorado River water to the Imperial Valley, operation and maintenance of the drainage canals and facilities, including those in the project area, and generation and distribution of electricity. Several policy documents govern IID operations and are summarized below:

- The Law of the River and historical Colorado River decisions, agreements and contracts;
- The Quantification Settlement Agreement and Transfer Agreements;
- The Definite Plan, now referred to as the Systems Conservation Plan, which defines the rigorous agricultural water conservation practices being implemented by growers and IID to meet the Quantification Settlement Agreement commitments;
- The Equitable Distribution Plan, which defines how IID will prevent overruns and stay within the cap on the Colorado River water rights;

- Existing IID standards and guidelines for evaluation of new development and define IID's role as a responsible agency and wholesaler of water; and
- Integrated Water Resources Management Plan, November 2009.

In relation to the projects, IID maintains regulation over the drainage of water into their drains, including the design requirements of stormwater retention basins. IID requires that retention basins be sized to handle an entire rainfall event in case the IID system is at capacity. Additionally, IID requires that outlets to IID facilities be no larger than 12 inches in diameter and must contain a backflow prevention device (IID 2009).

Imperial County Engineering Guidelines Manual

Based on guidance contained in the County's Engineering Guidelines Manual, the following drainage requirements would be applicable to the projects.

III A. GENERAL REQUIREMENTS

- 1. All drainage design and requirements are recommended to be in accordance with the Imperial Irrigation District (IID) "Draft" Hydrology Manual or other recognized source with approval by the County Engineer and based on full development of upstream tributary basins. Another source is the Caltrans I-D-F curves for the Imperial Valley.
- 2. Public drainage facilities shall be designed to carry the 10-year, 6-hour storm underground, the 25-year storm between the top of curbs provided two 12-foot minimum width dry lanes exist and the 100-year frequency storm between the right-of-way lines with at least one 12-foot minimum dry lane open to traffic. All culverts shall be designed to accommodate the flow from a 100-year frequency storm.
- 3. Permanent drainage facilities and right of way, including access, shall be provided from development to point of satisfactory disposal.
- 4. Retention volume on retention or detention basins should have a total volume capacity for a three-inch minimum precipitation covering the entire site with no C reduction factors. Volume can be considered by a combination of basin size and volume considered within parking and/or landscaping areas. There is no guarantee that a detention basin outletting to an IID facility or other storm drain system will not back up should the facility be full and unable to accept the project runoff. This provides the safety factor from flooding by ensuring each development can handle a minimum 3-inch precipitation over the project sites.
- 5. Retention basins should empty within 72 hours and no sooner than 24 hours in order to provide mosquito abatement. Draining, evaporation or infiltration, or any combination thereof can accomplish this. If this is not possible then the owner should be made aware of a potential need to address mosquito abatement to the satisfaction of the Environmental Health Services (EHS) Department. Additionally, if it is not possible to empty the basin within 72 hours, the basin should be designed for 5 inches, not 3 inches as mentioned in Item #4 above. This would allow for a saturation condition of the soil due to a 5" storm track. EHS must review and approve all retention basin designs prior to County Public Works approval. Nuisance water must not be allowed to accumulate in retention basins. EHS may require a nuisance water abatement plan if this occurs.
- 6. The minimum finish floor elevation shall be 12 inches above top of fronting street curb unless property is below street level and/or 6 inches above the 100-year frequency storm event or storm track. A local engineering practice is to use a 5-inch precipitation event as a storm track in the absence of detailed flood information. The 100-year frequency storm would be required for detention calculations.
- 7. Finish pad elevations should be indicated on the plans, which are at or above the 100-year frequency flood elevation identified by the engineer for the parcel. Finish floor elevations should be set at least 6 inches above the 100-year flood elevation.

- 8. The developer shall submit a drainage study and specifications for improvements of all drainage easements, culverts, drainage structures, and drainage channels to the Department of Public Works for approval. Unless specifically waived herein, required plans and specifications shall provide a drainage system capable of handling and disposing of all surface waters originating within the subdivision and all surface waters that may flow onto the subdivision from adjacent lands. Said drainage system shall include any easements and structures required by the Department of Public Works or the affected Utility Agency to properly handle the drainage on-site and off-site. The report should detail any vegetation and trash/debris removal, as well as address any standing water.
- 9. Hydrology and hydraulic calculations for determining the storm system design shall be provided to the satisfaction of the Director, Department of Public Works. When appropriate, water surface profiles and adequate field survey cross-section data may also be required.
- 10. An airtight or screened oil/water separator or equivalent is required prior to permitting on-site lot drainage from entering any street right of way or public storm drain system for all industrial/commercial or multi residential uses. A maximum 6-inch drain lateral can be used to tie into existing adjacent street curb inlets with some exceptions. Approval from the Director of Public Works is required.
- 11. The County is implementing a storm water quality program as required by the State Water Resources Control Board, which may modify or add to the requirements and guidelines presented elsewhere in this document. This can include ongoing monitoring of water quality of storm drain runoff, implementation of BMPs to reduce storm water quality impacts downstream or along adjacent properties. Attention is directed to the need to reduce any potential of vectors, mosquitoes or standing water.
- 12. A Drainage Report is required for all developments in the County. It shall include a project description, project setting including discussions of existing and proposed conditions, any drainage issues related to the site, summary of the findings or conclusions, off-site hydrology, on-site hydrology, hydraulic calculations and a hydrology map.

4.9.1.2 Existing Conditions

The project sites are located within the Brawley HA, an enclosed basin. Natural surface water features located in the local watershed include the New River, located to the east of the project sites and an existing elevated concrete irrigation channel that connects to the Westside Main Canal, located east of the project sites. Localized drainage conditions within the project sites are further described below.

Localized Drainage Conditions

Dixieland East Solar Farm

The portion of the DESF site located east of Brown Road is presently vacant, with an existing elevated concrete irrigation channel running west to east, where it connects with the elevated Westside Main Canal, just east of the site. The location where the west to east irrigation channel meets the Westside Main Canal, causes existing runoff to split and change directions to flow north approximately 2,000-feet towards the outlet of Coyote Wash (FEMA Zone "A"), and south over West Evan Hewes Highway approximately 3,500-feet to the outlet of another FEMA Zone "A" wash, as shown in Figure 4.9-2. The portion of the DESF site located east of Brown Road is covered with a layer of silty sand that is four to six feet deep with clay below the sand layer.

The area north of the concrete channel has an elevation drop of approximately 4 feet from west to east, with an average slope of 0.8 percent over approximately 470 feet, and terminates at a low flat area. The area south of the concrete channel drops about 4 feet from west to slightly northeast, at an average slope of 0.9 percent, and terminates at a small low area in the northeast corner of the sub-area.

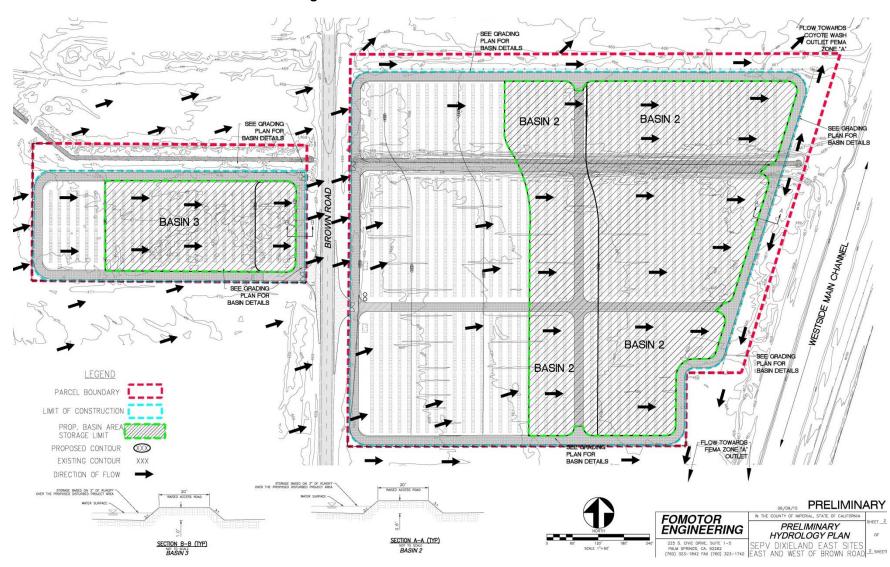


Figure 4.9-2. Direction of Water Flow on DESF

The portion of the DESF site located west of Brown Road is presently mostly vacant, with an existing elevated concrete irrigation channel running east to west on the far northern portion of the site; however, the proposed development does not cross on to this area. This portion of the DESF project site has an existing elevation drop of approximately 2.5 feet from west to east, with an average slope of 0.4 percent over about 600 feet.

Dixieland West Solar Farm

DWSF is presently vacant, with an elevation drop of 1 percent from west to east. Silty sand soils cover the project site to a depth of 50 feet. A 4-foot thick silty clay layer was encountered at a depth of 4 feet on the south side of the site and at a depth of 8 feet in the northeast corner. Runoff currently is directed across the proposed site location from west to east, and exits the site toward the DESF project site (Figure 4.9-3).

Flooding

According to the Flood Insurance Rate Map (FIRM) (Map Number 06025C1675C, September 26, 2008), the project sites are contained within Zone X and outside the limits of the 100-year flood zone (FEMA 2008). Zone X delineates areas of 2 percent annual chance flood; areas of 1 percent chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1 percent annual chance flood. The nearest flood zones (Zone A) are the Coyote Wash located north of DESF and a wash located south of the project sites, as shown in Figure 4.9-4, FEMA Flood Map.

Surface Water Quality

The surface waters of the Imperial Valley depend primarily on the inflow of irrigation water from the Colorado River via the All American Canal. Excessive salinity concentrations have long been one of the major water quality problems of the Colorado River, a municipal and industrial water source to millions of people, and a source of irrigation water for agriculture. The heavy salt load in the Colorado River results from both natural and human activities. Land use and water resources are unequivocally linked. A variety of natural and human factors can affect the quality and use of streams, lakes, and rivers. Surface waters may be impacted from a variety of point and non-point discharges. Examples of point sources may include wastewater treatment plants, industrial discharges, or any other type of discharge from a specific location (commonly a large-diameter pipe) into a stream or water body. In contrast, non-point source pollutant sources are generally more diffuse in nature and connected to a cumulative contribution of multiple smaller sources. There are no comprehensive water quality monitoring stations located within in the project sites, and water quality data are limited.

Common non-point source contaminants within the project area may include, but are not limited to: sediment, nutrients (phosphorous and nitrogen), trace metals (e.g., lead, zinc, copper, nickel, iron, cadmium, and mercury), oil and grease, bacteria (e.g., coliform), viruses, pesticides and herbicides, organic matter, and solid debris/litter. Vehicles account for most of the heavy metals, fuel and fuel additives (e.g., benzene), motor oil, lubricants, coolants, rubber, battery acid, and other substances. Nutrient loading in a result from excessive fertilizing of agricultural areas; however, pesticides and herbicides are widely used on roadway shoulders to keep right-of-way areas clear of vegetation and pests. Additionally, the use of on-site septic systems for wastewater disposal can degrade shallow groundwater by contributing nitrate. All these substances are entrained by runoff during wet weather and discharged into local drain facilities operated by IID and eventually terminate into the Salton Sea.



Figure 4.9-3. Direction of Water Flow on DWSF

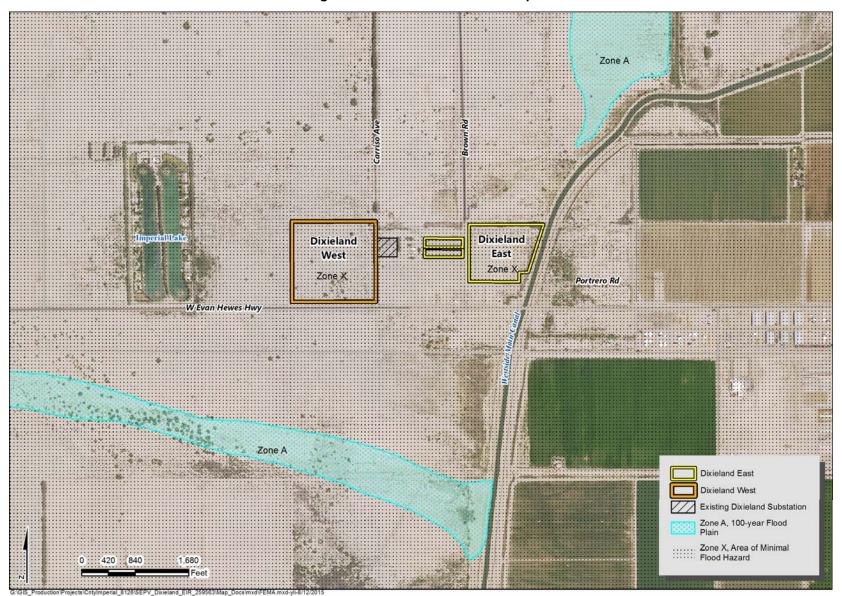


Figure 4.9-4. FEMA Flood Zone Map

Based on the Final 2010 Integrated Report (CWA Section 303(d) List/305(b) Report), prepared by the Colorado River Basin RWQCB, the following water features within the Brawley HA includes the Imperial Valley Drains, New River, and the Salton Sea. Specific impairments listed for each of these water bodies (or Category 5) is identified below (RWRCB 2011):

- Imperial Valley Drains: Impaired for chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, endosulfan, polychlorinated biphenyls (PCBs), sediment/siltation, selenium, and toxaphene;
- New River: Impaired for, chlordane, chlorpyrifos, copper, DDT, diazinon, dieldrin, hexachlorobenzene/HCB, mercury, nutrients, organic enrichment/low dissolved oxygen, PCBs, pathogens, sediment, selenium, toxaphene, toxicity, trash; and zinc and
- Salton Sea: Impaired for arsenic, chlorpyrifos, DDT, enterococcus, nutrients, salinity, and selenium.

Groundwater Hydrology

The project area overlies the western portion of the Imperial Valley Groundwater Basin (Department of Water Resources (DWR) Basin Number: 7-30), which covers approximately 1,870 surface square miles. The physical groundwater basin extends in the southeastern portion of California at the boarder with Mexico. The basin lies within the southern part of the Colorado Desert Hydrologic Region, south of the Salton Sea. The basin has two major aquifers, separated at depth by a semi-permeable aquitard that averages 60 feet thick and reaches a maximum thickness of 280 feet. The average thickness of the upper aquifer is 200 feet with a maximum thickness of 450 feet. The data regarding faults controlling groundwater movement is uncertain; however, as much as 80 feet of fine-grained, low permeability prehistoric lake deposits have accumulated on the valley floor, which result in locally confined aquifer conditions (Department of Water Resources 2004).

Groundwater recharge within the basin is primarily from irrigation return. Other recharge sources are deep percolation of rainfall and surface runoff, underflow into the basin, and seepage from unlined canals which traverse the valley. Groundwater levels within a majority of the basin have remained stable from 1970 to 1990 because of relatively constant recharge and an extensive network of subsurface drains (Department of Water Resources 2004).

Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (Department of Water Resources 2004).

4.9.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to hydrology and water quality, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.9.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to hydrology/water quality are considered significant if any of the following occur:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade groundwater water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater

¹ An aquitard is a zone within the earth that restricts the flow of groundwater from one aquifer to another.



table level (e.g., the production rate of pre-existing nearby wells would decline to a level which would not support existing land uses or planned uses for which permits have been granted);

- Alter the existing surface hydrology;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration
 of the course of a stream or river, in a manner which would result in substantial erosion, siltation,
 or flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Place within a 100-year (0.01 AEP) flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Result in inundation by seiche, tsunami, or mudflow.

4.9.2.2 Methodology

This analysis considers the potential for the projects to impact local and regional surface hydrology and water quality based on the components described in Chapter 3, Project Description. The impact analysis focuses on foreseeable changes to existing hydrologic and water quality conditions in the context of the significance criteria listed above. The impact analysis provides a discussion for each of the major project components in the context of proposed construction activities and post-construction operations. The *Preliminary Hydrology Study for SEPV Imperial, LLC Dixieland Photovoltaic Projects*, prepared by Fomotor Engineering (Appendix I) utilized criteria set forth in the County of Imperial Department of Public Works Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans within Imperial County, Section III Drainage Improvements (prepared: September 9, 2004 and revised: September 15, 2008).

4.9.2.3 Impact Analysis

IMPACT 4.9-1

Violation of Water Quality Standards During Construction.

Construction of the projects could generate discharges to surface water resources that could potentially violate water quality standards or waste discharge requirements.

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction of the project facilities would involve excavation, soil stockpiling, grading, and the installation of solar arrays and access roads. There are multiple construction related activities that could have potential direct or indirect impacts on the water quality of local surface water features and shallow groundwater resources including; sedimentation, erosion, handling hazardous materials, and dewatering. Disturbing the geomorphic characteristics and stability of the channel bed and banks may initiate chronic erosion in natural and engineered channels thereby resulting in increased turbidity. A similar circumstance could occur upon decommissioning of the projects prior to site restoration. In both cases, such impacts could be exacerbated if surface vegetation is not reestablished and stabilized prior to the next high-flow or precipitation event and could result in significant direct impacts within the immediate vicinity of construction and indirect impacts to water quality further downstream. This is considered a significant impact. Implementation of Mitigation Measures HWQ-1 and HWQ-2 would reduce these impacts to a level less than significant.

Hazardous materials associated with construction would be limited to substances associated with mechanized equipment, such as gasoline and diesel fuels, engine oil, and hydraulic fluids. If precautions are not taken to contain contaminants, accidental spills of these substances during construction could

produce contaminated stormwater runoff (nonpoint source pollution), a major contributor to the degradation of water quality in surface waters. Without proper containment and incident response measures in place, the operation of construction equipment could result in significant direct and indirect impacts to water quality. This is considered a **significant impact**. Implementation of Mitigation Measures HWQ-1 and HWQ-2 would reduce these impacts to a level **less than significant**.

Construction of the projects could, at times, also require dewatering of shallow, perched groundwater in the immediate vicinity of excavations and installation of underground features at a limited number of areas where groundwater depths are shallow. As stated in the Section 4.9.1.2, Existing Conditions, Groundwater Hydrology, the groundwater in the Imperial Valley Groundwater Basin is unusable for domestic and irrigation purposes without treatment due to poor water quality. Groundwater withdrawn from the construction areas could be subsequently discharged to local drainage ditches or via land application. These discharges may contain sediments, dissolved solids, salts, and other water quality constituents found in the shallow groundwater, which could degrade the quality of receiving waters. Degradation of local receiving waters from the introduction of shallow groundwater during construction dewatering could result in a significant impact to receiving waters. This is considered a **significant impact**. Implementation of Mitigation Measures HWQ-1 and HWQ-2 would reduce these impacts to a level **less than significant**.

Prior to construction and grading activities, the project applicant is required to file an Notice of Intent with the SWRCB to comply with the General NPDES Construction Permit and prepare a SWPPP, which addresses the measures that would be included during project construction to minimize and control construction and post-construction runoff to the "maximum extent practicable." In addition, NPDES permits require the implementation of BMP's that achieve a level of pollution control to the maximum extent practical, which may not necessarily be completely protective of aquatic life or address water quality impairments for local waterways. This represents a **significant**, **direct and indirect impact**. For these reasons, the implementation of the prescribed mitigation would be required to ensure that the project SWPPPs and Grading Plan(s) include measures necessary to minimize water quality impacts as a result of project construction and post-construction runoff. Implementation of Mitigation Measures HWQ-1 and HWQ-2 would reduce impacts to a level **less than significant**. In addition, given that site decommissioning would result in similar activities as identified for construction, these impacts could also occur in the future during site restoration activities.

Mitigation Measure(s)

The following mitigation measures are required for the DESF and DWSF.

Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the projects and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the project applicant prior to commencement of work and shall be made conditions of the contract with the contractor selected to build and decommission the projects. The SWPPP(s) shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching);
- Dewatering and/or flow diversion practices, if required (see Mitigation Measure HWQ-2);
- Sediment control practices (temporary sediment basins, fiber rolls);
- Temporary and post-construction on- and off-site runoff controls;

- Special considerations and BMPs for water crossings, wetlands, and drainages;
- Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity;
- Waste management, handling, and disposal control practices;
- Corrective action and spill contingency measures;
- Agency and responsible party contact information, and
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP.

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

Properly Dispose of Construction Dewatering in Accordance with the Colorado River Basin Regional Water Quality Control Board. If required, all construction dewatering shall be discharged to an approved land disposal area or drainage facility in accordance with Colorado River Basin RWQCB requirements. The project applicant or its construction contractor shall provide the Colorado River Basin RWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.

Significance After Mitigation

With the implementation of the above mitigation measures, impacts to surface water quality as attributable to the projects would be reduced to a **less than significant** level through the inclusion of focused BMPs for the protection of surface water resources. Monitoring and contingency response measures would be included to verify compliance with water quality objectives for all surface waters crossed during construction. Particular emphasis would be placed on dissolved oxygen, floating material, oil and grease, and turbidity (or sediment) as these are generally the water quality constituents of most concern during construction-related activities.

IMPACT 4.9-2

Violation of Water Quality Standards During Operation.

Operation of the projects' solar arrays, electrical equipment and components, and access roads could involve the use of materials or substances that could be entrained in surface runoff and discharged to surface waterways or groundwater.

Dixieland East Solar Farm and Dixieland West Solar Farm

Post-construction runoff from the constructed facilities would carry two main water quality impacts that could impact surface water drainages and drains. The first is caused by an increase in the type and quantity of pollutants in storm water runoff. As runoff flows over developed surfaces, water can entrain a variety of potential pollutants including, but not limited to, oil and grease, pesticides, trace metals, and nutrients. These pollutants can become suspended in runoff and carried to receiving waters. These effects are commonly referred to as non-point source water quality impacts.

Long-term operation of the solar facilities poses a limited threat to surface water quality after the completion of construction. The projects would be subject to the County's Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project sites are located in unincorporated Imperial County and not subject to a Municipal Separate Storm Sewer System (MS4) or NPDES General Industrial Permit, there is no regulatory mechanism in place to address post-construction water quality concerns. Based on this consideration, the projects have the potential to result in both direct and indirect water quality impacts that could be significant. This is considered a **significant impact**. Implementation of Mitigation Measure HWQ-3 would reduce impacts to a level **less than significant**.

Long-term point discharges from the projects would be minimal; however, reductions in water quality could occur where the water released is of lower quality than ambient conditions. These discharges would be infrequent, but could include landscape irrigation, uncontaminated pumped ground water, and discharges of potable water during water tank cleaning [as defined in 40 CFR 35.2005(21)]. In this context, long-term water quality impacts from point sources would be **less than significant**.

The second potential impact from post-construction runoff is a potential increase in the quantity of water delivered to adjacent or nearby water bodies during storms, referred to as Hydromodification. Increased impervious surfaces from surfaces such as asphalt, concrete, and other compacted surfaces can interrupt the natural cycle of gradual percolation of water through vegetation and soil. Instead, large volumes of water runoff collects and is routed to drainage systems where it is discharged to the nearest receiving water. This process can contribute to stream bank scouring and downstream flooding, resulting in impacts to aquatic life and damage property. For these reasons, the projects could result in on- and off-site discharges that could indirectly impact downstream surface waters by increasing drain scour and/or sedimentation. Therefore, this **indirect impact is considered significant**. Implementation of Mitigation Measure HWQ-3 would reduce impacts to a level **less than significant**.

Mitigation Measure(s)

The following mitigation measure is required for DESF and DWSF.

Incorporate Post-Construction Runoff BMPs into Project Drainage Plan and Maximize Opportunities for Low Impact Development. The project Drainage Plan shall adhere to County and IID guidelines to treat, control, and manage the on- and off-site discharge of stormwater to existing drainage systems. Low Impact Development opportunities, including but not limited to infiltration trenches or bioswales, will be investigated and integrated into the Drainage Plan to the maximum extent practical. The Drainage Plan shall provide both short-

and long-term drainage solutions to ensure the proper sequencing of drainage facilities and treatment of runoff generated from project impervious surfaces prior to off-site discharge.

The project applicant shall ensure the provision of sufficient outlet protection through the use of energy dissipaters, vegetated rip-rap, soil protection, and/or other appropriate BMPs to slow runoff velocities and prevent erosion at discharge locations, access roads, electrical distribution, and solar array locations. A long-term maintenance plan shall be developed and implemented to support the functionality of drainage control devices. The facility layout(s) shall also include sufficient container storage and on-site containment and pollution-control devices for drainage facilities to avoid the off-site release of water quality pollutants, including, but not limited to oil and grease, fertilizers, treatment chemicals, and sediment.

Significance After Mitigation

With the implementation of Mitigation Measure HWQ-3, potential water quality impacts resulting from post-construction discharges during project operations would be reduced to a **less than significant** level. With the proposed mitigation, any stormwater runoff generated from the project sites would be subject to on-site treatment and retention and, therefore, would not pose a significant threat to local surface water features or shallow groundwater resources. Potable water discharges generated during operations would be of limited quantity and sufficient quality that they would pose a **less than significant** threat to the environment.

IMPACT 4.9-3

Impacts to Groundwater Recharge, Supply, and Adjacent Wells.

The projects would not involve the use of groundwater, which could otherwise carry the potential for interference with current groundwater recharge, possible depletion of groundwater supplies, or interference with adjacent wells.

Dixieland East Solar Farm and Dixieland West Solar Farm

As described in Chapter 3.0, Project Description the projects would utilize existing water service contracts with IID and would not involve the use of groundwater and no construction of new well facilities is proposed. For this reason, the projects would not carry the potential to create drawdown effects that could otherwise adversely affect adjacent wells. Although groundwater dewatering may be necessary during construction, these activities would only result in temporarily reductions in groundwater levels within and directly adjacent to construction areas. Any localized lowering of the groundwater table would recover quickly following pumping and would not cause a net deficit in aquifer volume or a lowering of the groundwater table in the Imperial Valley Groundwater Basin. As a result, **no significant impacts** to groundwater levels are expected.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.9-4

Alternation of Drainage Patterns and Off-site Flooding.

The projects could result in the alteration of existing drainage patterns thereby increasing the rate or amount of surface runoff in a manner that could result in on or off-site flooding and downstream erosion and sedimentation.

Dixieland East Solar Farm and Dixieland West Solar Farm

Based on guidance contained in the County's Engineering Guidelines Manual, each proposed development is required to create retention storage equal to three inches of rainfall over the disturbed area of each project site. The retention storage must infiltrate or drain within 72-hours. This can be achieved through infiltration, or controlled discharge, as long as the proposed discharge rate off the site is at or less than existing conditions. If the basin does not empty within 72 hours, then the retention storage requirement would increase to five inches over the disturbed area of each respective project site, as per County of Imperial Department of Public Works Engineering Design Guidelines Manual. The three-inch depth was initially used as an estimate of proposed storage runoff for all sites, and appears to continue to apply in this case, based upon the results of the percolation tests.

Dixieland East Solar Farm - Portion West of Brown Road

The portion of the DESF site located west of Brown Road is 204,561 square feet (sq-ft) (4.7 acres), with a limit of construction disturbance of 162,285 sq-ft within the project site area. The worst case soil infiltration rate is 1.13-min per inch, and would allow the retention storage to empty within 72-hours with a Factor of Safety of 318 (See Appendix I, Reference Materials, Basin Storage with Infiltration Data, and Percolation Tests). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of flow for existing conditions. Onsite retention storage would be created with the proposed perimeter roads along the north, south, and east sides of the project area to be elevated 1.0-feet to contain the proposed basin storage area within the project site (Figure 4.9-2). The west perimeter road would be constructed at existing grade to allow existing runoff to continue along the current flow path, and enter the site. Weir flow over the elevated east perimeter road would allow runoff to continue as sheet flow in the existing condition west to east direction across Brown Road, and toward the portion of the DESF site located East of Brown Road, while providing more than the required storage runoff capacity in conjunction with the north and south

elevated perimeter roads. As shown in Table 4.9-2, the project's proposed basin storage volume (56,855 cubic feet [cu-ft]) would provide more than the required runoff storage volume of 40,571 cu-ft.

TABLE 4.9-2. DESF – PORTION WEST OF BROWN ROAD BASIN STORAGE VOLUME

Basin ID	Total Area to be Disturbed by Construction (sq-ft)	Required Runoff Storage Volume (cu-ft)	Basin Surface Area (sq-ft)	Proposed Basin Storage Volume (cu-ft)	Duration Until Storage is Empty (Hours)
3			93,503	56,855	UNDER 72
Total	162,285	40,571	93,503	56,855	UNDER 72

Source: Fomotor Engineering, 2015

Dixieland East Solar Farm - Portion East of Brown Road

The portion of the DESF site located east of Brown Road is 898,544 sq-ft (20.6 acres), with the limit of construction disturbance of 807,546 sq-ft within the project site area. The worst case soil infiltration rate is 17.82-min per inch, and would allow the retention storage to empty within 72-hours with a Factor of Safety of 34 (See Appendix I, Reference Materials, Basin Storage with Infiltration Data, and Percolation Tests). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of flow for existing conditions. Proposed retention storage would be created with outer perimeter roads along the north, south and east sides of the project area to be elevated 0.6-feet (Figure 4.9-2).

The west perimeter road would be constructed at existing grade to allow existing runoff to continue along the current flow path, and enter the site. Weir flow over the east perimeter road would allow runoff from the site to continue as sheet flow in the direction of existing conditions from west to east toward the Westside Main Canal, while providing more than the required storage runoff capacity. As shown in Table 4.9-3, the project's proposed basin storage volume (207,405 cu-ft) would provide more than the required runoff storage volume of 201,887 cu-ft.

Runoff north of the demolished east to west irrigation canal would exit the site as weir flow over the elevated east perimeter road, and then be directed to the north along the existing flow path toward the outlet of Coyote Wash (FEMA Zone A) about 2,000 feet away. Runoff south of the demolished east to west irrigation canal would exit the site as weir flow over the elevated east perimeter road, and then be directed to the south along the existing flow path over West Evan Hewes Highway toward the outlet of the existing FEMA Zone A Wash, about 3,500 feet away. Existing offsite drainage along the east project boundary would be improved to eliminate ponding and nuisance water from accumulating at the existing low area near the intersection of the elevated existing east to west concrete irrigation channel across the project site, and Westside Main Canal.

TABLE 4.9-3. DESF – PORTION EAST OF BROWN ROAD BASIN STORAGE VOLUME

Basin ID	Total Area to be Disturbed by Construction (Sq-ft)	Required Runoff Storage Volume (Cu-Ft)	Basin Surface Area (Sq-ft)	Proposed Basin Storage Volume (Cu-Ft)	Duration Until Storage is Empty (Hours)
Dasiii iD	(64 11)	(Ou i t)	(04 11)	(Ou i t)	(Hours)
2			413,386	207,405	Under 72
Total	807,546	201,887	413,386	207,405	Under 72

Source: Fomotor Engineering 2015

Dixieland West Solar Farm

DWSF is 1,740,259 sq-ft (40.0 acres), with an area of construction disturbance of 1,151,186 sq-ft within the project site area. The worst case soil infiltration rate is 1.70-min per inch, and would allow the



retention storage to empty within 72-hours with a Factor of Safety of 141 (See Appendix I, Reference Materials, Basin Storage with Infiltration Data, and Percolation Tests). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of runoff for existing conditions. Onsite retention storage would be created by elevating two of the north to south access roads that would run perpendicular to the existing flow path. The western north to south perimeter road would be constructed at existing grade to allow existing run-on to the site to continue along the existing flow path, and enter the site. The eastern north to south perimeter road and center north to south interior road would be elevated 1.5-feet to act as weirs, to direct runoff along the existing flow path, and help create two proposed basin storage areas within the project site (Figure 4.9-3). In addition, the west to east outer perimeter roads also would be elevated 1.5-feet to help contain runoff storage in the proposed basin areas. The runoff weir flow exiting the site over the top of the eastern north to south perimeter road would sheet flow off the site to the east along the existing flow path toward DESF. As shown in Table 4.9-4, the project's proposed basin storage volume (414,232 cu-ft) would provide more than the required runoff storage volume of 287,797 cu-ft.

TABLE 4.9-4. DWSF – BASIN STORAGE VOLUME

Basin ID	Total Area to be Disturbed by Construction (sq-ft)	Required Runoff Storage Volume (cu-ft)	Basin Surface Area (sq-ft)	Proposed Basin Storage Volume (cu-ft)	Duration Until Storage is Empty (Hours)
1A			232,134	223,209	Under 72
1B			254,697	191,023	
Total	1,151,186	287,797	486,831	414,232	Under 72

Source: Fomotor Engineering 2015

The proposed site grading, and specific elevated onsite roads have been designed to create the required onsite retention storage, while maintaining the direction of existing condition runoff without increasing the discharge rate to adjacent properties, and meeting the requirements established in the County of Imperial Department of Public Works Engineering Design Guidelines Manual. Based on these considerations, the proposed projects would not result in the alteration of existing drainage patterns thereby increasing the rate or amount of surface runoff in a manner that could result in on or off-site flooding and downstream erosion and sedimentation. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Placement of Housing within a 100-Year Floodplain. 4.9-5

The projects would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects would not involve the construction of residential housing and, therefore, would not place housing within a 100-year flood hazard area as mapped on the most recent FIRMs for the project sites. There are no flood protection facilities including dam impoundments upstream of the project sites. Although levees provide flood protection from the New River for the project area, no residential structures would be constructed that could otherwise be subject to hazards from a levee failure. Additionally, no modifications or crossings at levee structures are proposed, which could otherwise indirectly impact existing residents. Therefore, **no impact** is identified for this issue area.

4.9-20

Mitigation Measure(s)

4.9-6

No mitigation measures are required.

IMPACT Impede or Redirect Flood Flows.

The projects would not require the placement of structures within a 100-year flood hazard area, which would impede or redirect flood flows.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites are contained within Zone X and outside the limits of the 100-year flood zone. The projects' facilities would not be constructed within a delineated 100-year flood hazard area or floodway. As a result, the construction and operation of the projects would not place structures within a 100-year flood hazard area as mapped on the most recent federal FIRM. Therefore, **no impact** is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Inundation from Flooding or Mudflows.

The projects would not expose people or structures to a significant risk of loss, injury or death involving inundation by flooding, including flooding as a result of the failure of a levee or dam, seiche, or tsunami or inundation by mudflows.

Dixieland East Solar Farm and Dixieland West Solar Farm

In recognition of the project areas' inland location, the threat of tsunamis or seiche originating from the Salton Sea is considered negligible. As described in Chapter 4.6, Geology and Soils, the topography within the vicinity of project areas is generally level and, therefore, the hazard of mudflows adversely affecting the project facilities is very low. For this reason, **no significant impact** would occur.

Mitigation Measure(s)

No mitigation measures are required.

4.9.3 Decommissioning/ Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration activities would result in similar impacts to hydrology and water quality as would occur during construction of the proposed projects. The primary water quality issue associated with decommissioning/restoration would be potential impacts to surface water quality, as the decommissioning activities would be similar to construction activities, and would be considered a **significant impact**. However, with implementation of Mitigation Measures HWQ-1 and HWQ-2, impacts to surface water quality would be reduced to a level **less than significant** through the inclusion of focused BMPs for the protection of surface water resources. Impacts to other water resource issues, including alteration of drainage patterns, contributing to off-site flooding, impacts to groundwater recharge and supply, would be **less than significant**. There would be **no impact** associated with placement of housing within a 100-year floodplain, impeding or redirecting flows, or inundation from flooding or mudflows.

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Residual

With implementation of the mitigation measures listed above, implementation of the projects would not result in any residual significant impacts related to increased risk of flooding from stormwater runoff, from water quality effects from long-term urban runoff, or from short-term alteration of drainages and associated surface water quality and sedimentation. With the implementation of the required mitigation measures during construction and decommissioning of the projects, water quality impacts would be minimized to a less than significant level. Based on these circumstances, the projects would not result in any residential significant and unmitigable adverse impacts to surface water hydrology and water quality.

4.9-22

4.10 LAND USE/PLANNING

This section provides information regarding current land use, land use designations, and land use policies within and in the vicinity of the project sites. Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines states that "[t]he EIR shall discuss any inconsistencies between the projects and applicable general plans and regional plans." This section fulfills this requirement for the projects. In this context, this section reviews the land use assumptions, designations, and policies of the Imperial County (County) General Plan and other applicable federal, state, and local requirements, which governs land use within the project area and evaluates the projects' potential to conflict with policies adopted for the purpose of avoiding or mitigating significant environmental effects. Where appropriate, mitigation is applied and the resulting level of impact identified.

4.10.1 Environmental Setting

As discussed in Chapter 2.0, Environmental Setting of this Environmental Impact Report (EIR), the project is comprised of two individual site locations, Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF). DESF consists of three parcels and DWSF consists of one parcel; both sites encompassing approximately 53 acres. The proposed projects are located on privately owned, undeveloped, but partially disturbed land. The project area is located in the Dixieland area in unincorporated Imperial County (see Figure 3-1). The southern-most boundary of the projects borders West Evan Hewes Highway. The eastern-most boundary of the project sites (DESF) borders the Westside Main Canal, and is approximately 10 miles west of El Centro, California. The project sites are designated as Agriculture under the County's General Plan (as amended through 2008). The project sites are located within the General Agriculture (A-2) zoning designation (see Figure 4.10-1, General Plan Land Use and Zoning Designations). Surrounding uses consists of vacant desert land with rural lots and a few remaining residences. The Centinela State Prison is located approximately two miles northwest.

As discussed in Chapter 3.0, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone (see Figure 3-3) based on an update to the existing Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. This Element is discussed in detail under Section 4.10.1.1.

4.10.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

State

State Planning and Zoning Laws

California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term, and general document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or more. Finally, although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow for flexibility in the approach taken to achieve the plan's goals.

The State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses within a specific zone district, are required to be consistent with the general plan and any applicable specific plans.

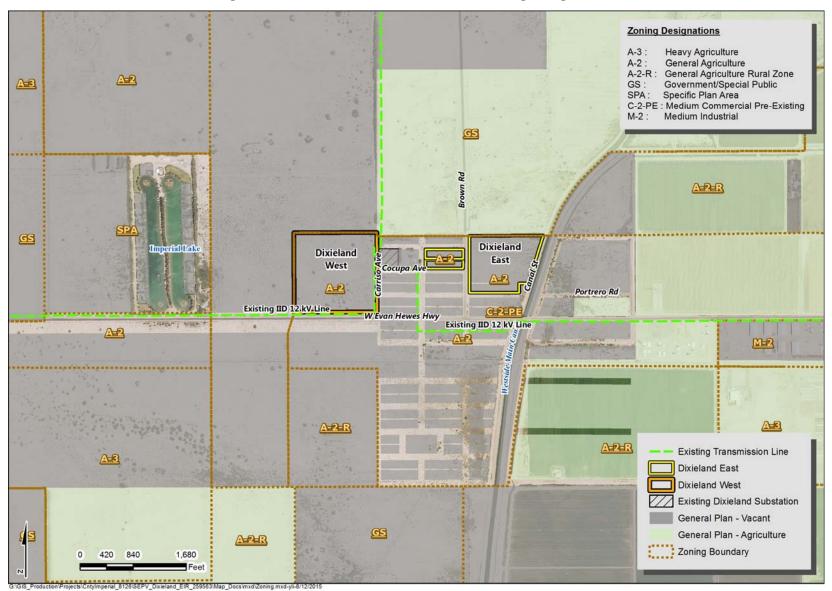


Figure 4.10-1. General Plan Land Use and Zoning Designations

Local

Regional Comprehensive Plan and Regional Transportation Plan

The Southern California Association of Governments' (SCAG) Intergovernmental Review (IGR) section, part of the Environmental Planning Division of Planning and Policy, is responsible for performing consistency review of regionally significant local plans, projects, and programs. Regionally significant projects are required to be consistent with SCAG's adopted regional plans and policies such as the Regional Comprehensive Plan (RCP) and the Regional Transportation Plan (RTP). The criteria for projects of regional significance are outlined in State CEQA Guidelines Sections 15125 and 15206. According to the SCAG Intergovernmental Review Procedures Handbook, "new or expanded electrical generating facilities and transmission lines" qualify as regionally significant projects. For this reason, Table 4.10-1 provides a consistency evaluation for the projects with applicable SCAG IGR policies.

County of Imperial General Plan

The purpose of the County's General Plan (as amended through 2008) is to direct growth, particularly urban development, to areas where public infrastructure exists or can be provided, where public health and safety hazards are limited, and where impacts to the County's abundant natural, cultural, and economic resources can be avoided. The following ten elements comprise the County's General Plan: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; Geothermal/Alternative Energy and Transmission; Water; and Parks and Recreation. Together, these elements satisfy the seven mandatory general plan elements as established in the California Government Code. Goals, objectives, and implementing policies and actions programs have been established for each of the elements.

Imperial County has received funding from the California Energy Commission's (CEC) Renewable Energy and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of renewable energy projects. The Geothermal/Alternative Energy and Transmission Element was last updated in 2006. Since then, there have been numerous renewable projects proposed, approved and constructed within Imperial County as a result of California's move to reduce greenhouse gas emissions, develop alternative fuel resources and implement its RPS. The County has recently prepared an update to the existing Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. This Element is still in draft form and pending adoption. This General Plan element uses the Desert Renewable Energy Conservation Plan (DRECP) as an initial planning and policy framework, then applies further constraints analysis to the proposed renewable energy zones based on the County's goals and priorities, including protection of agricultural land.

As part of the Geothermal/Alternative Energy and Transmission Element, the County developed a draft Renewable Energy (RE) Overlay Zone Map, which identifies locations within the County authorized for development and operation of renewable energy projects with an approved Renewable Energy Conditional Use Permit (RECUP). The proposed RE Overlay Zone is concentrated in areas that were determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. The RE Overlay Zone covers approximately 61,627.10 acres of land and surface water within the Salton Sea. The Overlay Zone Map contains three categories: 1) Geothermal, 2) Renewable Energy, and 3) Renewable Energy/Geothermal. As shown in Figure 3-3 (see Chapter 3.0 Project Description), the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. The Renewable Energy/Geothermal overlay zone category was developed to identify areas that could be developed with any form of renewable energy technology, including geothermal production. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting agricultural, natural, and cultural resources.

The CEC grant also includes an update to the 1993 Conservation/Open Space Element to facilitate future development of renewable energy projects. The update of the 1993 Conservation/Open Space Element

4.10-3

will assist in identifying areas that will conserve habitat areas on federal, state, military, tribal and private lands in the County. This is in order to implement the conservation goals of the Desert Renewable Energy Conservation Plan in a manner consistent with Government Code Section 65041.1(b).

As previously indicated, the County's General Plan designates the project area as "Agriculture." The County identifies agricultural land as a form of open space. According to the Conservation and Open Space Element of the General Plan, open space is "any parcel or area of land or water, which is essentially unimproved and devoted to one of the following categories of uses: Preservation of Natural Resources; Managed Production of Resources; Outdoor Recreation; and, Protection of the Public Health and Safety." As such, outdoor recreational activities including hunting, bike riding, walking, and bird watching can take place in agricultural areas.

An analysis of the projects' consistency with the General Plan goals and objectives relevant to the projects is provided in Table 4.10-1, Project Consistency with Applicable Plan Policies. A detailed analysis of the project's consistency with the General Plan goals, objectives and policies regarding Agriculture is provided in Section 4.2 Agriculture and Forestry Resources of this EIR. While this EIR analyzes the project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Planning Commission and Board of Supervisors retain authority for the determination of the project's consistency with the General Plan.

TABLE 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis		
Imperial County General Plan, Land Use Element				
Public Facilities, Objective 8.7. Ensure the development, improvement, timing, and location of community sewer, water, and drainage facilities will meet the needs of existing communities and new developing areas.	Consistent	The projects include the necessary supporting infrastructure and would not require new community-based infrastructure. The projects would be required to construct supporting drainage consistent with County requirements and mitigation measures prescribed in Section 4.9 Hydrology/Water Quality of the EIR. Water would be required for solar panel washing and fire protection and would be provided by the Imperial Irrigation District (IID). The project will obtain metered Temporary Water Service from the Westside Main Canal to fill water trucks on an as needed basis. This service would likely shift to metered General Industrial Water Service once the facility is operational to allow for periodic washing of the PV modules. The proposed projects would not require an operations and maintenance building. Therefore, no septic or other wastewater disposal systems would be required for the projects.		
Public Facilities, Objective 8.8. Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Consistent	With the approval of a CUP and associated conditions, the projects would be a permitted use within the agricultural land use designation and associated zoning designation. Furthermore, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting agricultural, natural, and cultural resources.		
Public Facilities, Objective 8.9. Require necessary public utility rights-of-way when appropriate.	Consistent	The projects will not require the dedication of necessary right-of-way (ROW) to facilitate the placement of electrical distribution and transmission infrastructure. However, the DESF site will require several road abandonments and lot merger to create a single lot/parcel. The roadway abandonments will not affect access or impact traffic. The relinquishment of these easements and lot merger are necessary to create one contiguous site.		

	Consistency			
Applicable Policies	Determination	Analysis		
Protection of Environmental Resources, Objective 9.6. Incorporate the strategies of the Imperial County Air Quality Attainment Plan (AQAP) in land use planning decisions and as amended.	Consistent	Due to the minimal grading of the site during construction and limited travel over the site during operations, local vegetation is anticipated to remain largely intact which will assist in dust suppression. Furthermore, dust suppression will be implemented including the use of water and soil binders during construction. Chapter 4.3, Air Quality, discusses the projects' consistency with the AQAP in more detail.		
Imperial County General Plan, Circulation and Scenic Highways Element				
Safe, Convenient, and Efficient Transportation System, Objective 1.1. Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	Consistent	The projects would include limited operational vehicle trips once constructed and would not be expected to reduce the current level of service (LOS) at affected intersections, roadway segments, and highways. The projects do not propose any forms of residential or commercial development and therefore would not require new forms of alternative transportation to minimize impacts to existing roadways.		
Safe, Convenient, and Efficient Transportation System, Objective 1.2. Require a traffic analysis for any new development which may have a significant impact on County roads.	Consistent	Both projects are located in remote areas that do not have congested roadways. The only time that projects would generate any noticeable traffic is during the 36-week construction period. Once the projects are completed, they would only intermittently generate a few trips per day. Since the construction phase of the project is forecast to generate less than 100 peak hour trips (PCEs) and 148 daily trips (PCEs), no detailed traffic study is required based on Imperial County guidelines .However, as discussed in Chapter 4.13, Transportation and Traffic, a traffic study was prepared for the projects and demonstrate that no capacity-related traffic impacts are anticipated as a result of the projects.		
Imperial County General Plan, Nois	se Element	11 - 13		
Noise Environment. Objective 1.3. Control noise levels at the source where feasible.	Consistent	The proposed location of the projects' solar facilities generally avoids the placement of new structures in proximity to noise-sensitive uses. In instances where construction-related and operational noise would occur in closer proximity to noise sensitive land uses (e.g. less than 500 feet), the County would condition the projects to maintain conformance with County noise standards.		
Project/Land Use Planning. Goal 2: Review Proposed Actions for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Consistent	As discussed in Section 4.11, Noise and Vibration, the projects would be required to comply with the County's noise standards during both construction and operation.		
Long Range Planning. Goal 3: Provide for environmental noise analysis inclusion in long range planning activities which affect the County.	Consistent	The EIR contains a noise analysis that considers and evaluates long-term noise impacts related to project operations. As discussed in Section 4.11, Noise and Vibration, the projects would result in less than significant noise impacts.		
Imperial County General Plan, Conservation and Open Space Element				
Conservation of Environmental Resources for Future Generations Objective 1.5 Provide for the most beneficial use of land based upon recognition of natural constraints.		The solar field site parcels would be converted from underutilized vacant land to a solar energy facility. The proposed projects would provide a beneficial use of the land by creating local jobs during construction and to a lesser degree during operation. Section I(C) of the Imperial County General Plan Geothermal/Alternative Energy and Transmission Element explains that the County adopted the element after determining that the benefits of alternative energy development in the County include: 1) Fiscal benefit of expanded property tax revenues; 2) Fiscal benefit of		

Applicable Policies	Consistency Determination	Analysis
		sales tax revenues from purchase of goods and services; 3) Royalty and lease benefits to local landowners and County; 4) Social and fiscal benefits from increased economic activity and employment opportunities; 5) Improvements in technology to reduce costs of electrical generation; 6) Potential air quality improvement by displacement of fossil-fueled generated electricity with geothermal/alternative energy power which does not add to the Greenhouse effect; 7) Contributes toward meeting the State of California's Renewables Portfolio Standard (RPS).
		In addition, the generation of 5 MWac of renewable electrical energy is a benefit that would otherwise be generated by non-renewable fossil fuels. Therefore, the proposed projects are consistent with this objective. See Appendix M, Economic Impact Analysis of this EIR for a further evaluation of the economic impacts of the projects.
Preservation of Biological Resources. Goal 2: The County will preserve the integrity, function, productivity, and long-term viability of environmentally sensitive habitats, and plant and animal species.	Consistent	A biological resources survey was conducted for the project area. As discussed in Section 4.4, Biological Resources, there are potentially significant biological resources located within the project sites. However, with the implementation of mitigation in Section 4.4, Biological Resources, these impacts are reduced to a level less than significant.
Preservation of Cultural Resources. Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Consistent	A cultural resources records search and survey was conducted for the project area. As discussed in Section 4.5, Cultural Resources, there are previously recorded cultural resources found within DWSF. However, with the implementation of mitigation in Section 4.5, Cultural Resources, these impacts are reduced to a level less than significant. No cultural resources were discovered within DESF.
Preservation of Agricultural Lands. Goal 4: The County will actively conserve and maintain contiguous farmlands and prime soil areas to maintain economic vitality and the unique lifestyle of the Imperial Valley.	Consistent	The project sites do not contain prime farmland or farmland of statewide importance. As discussed in Section 4.2, Agricultural Resources, the LESA scores for the projects are below 39 points. Therefore, the project sites are not considered to have significant agricultural resources. Therefore, development of the DESF and DWSF sites would result in no impact to important farmlands. Please refer to Section 4.2, Agricultural Resources, which provides a more detailed analysis of the projects' consistency with applicable agricultural goals and objectives.
Conservation of Energy Sources. Goal 6: The County shall seek to achieve maximum conservation practices and maximum development of renewable alternative sources of energy.	Consistent	The projects entail the construction and operation of a solar energy facility, which is considered an alternative source of energy.
Conservation of Energy Sources. Objective 6.2 Encourage the utilization of alternative passive and renewable energy resources.	Consistent	The projects consist of the construction and operation of a solar energy facility, which is considered an alternative source of energy. With implementation of the projects, a new source of solar energy would be identified.
Conservation of Energy Sources. Objective 6.6 Encourage compatibility with National and State energy goals and city and community general plans.	Consistent	The projects are consistent with California Public Utilities Code § 399.11 et seq., "Increasing the Diversity, Reliability, Public Health and Environmental Benefits of the Energy Mix." California's electric utility companies are required to use renewable energy to produce 20 percent of their power by 2010 and 33 percent by 2020. The projects would contribute toward this goal.

Applicable Policies	Consistency Determination	Analysis
	thermal/Alternativ	e Energy and Transmission Element
Agricultural Lands and Biological Resources. Objective 2.3. Utilize existing easements or right-of-way and follow field boundaries for electric and liquid transmission lines.	Consistent	Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T18700) that runs north-south along Broadway Avenue by way of a gen-tie line that would cross Brown Avenue and run east-west along the southern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement on the DWSF site. The electricity generated by the projects would be transferred to IID's Dixieland Substation.
Agricultural Lands and Biological Resources, Objective 2.4. Carefully analyze the potential impacts on agricultural and biological resources from each project.	Consistent	Please refer to Section 4.2, Agricultural Resources, for a description of existing agricultural resources within the project area and a discussion of potential impacts attributable to the projects. A biological resources report has been prepared for these projects, which is summarized in Section 4.4, Biological Resources, along with potential impacts attributable to the projects. With incorporation of mitigation identified in Sections 4.2, Agricultural Resources and 4.4, Biological Resources, less than significant impacts would result.
Development of Geothermal/ Alternative Energy Resources. Goal 1. The County of Imperial supports and encourages the full, orderly, and efficient development of geothermal/alternative energy resources while at the same time preserving and enhancing where possible agricultural, biological, human, and recreational resources.	Consistent	With the approval of all CUPs and discretionary permits, the proposed projects would be an allowable use within the existing land use and zoning designations. In addition, the projects would promote Imperial County's renewable energy policies and would be consistent with the County's goal, as stated in its April 20, 2010 proclamation.
Development of Geothermal/Alternative Energy Resources. Objective 1.1. Design for the co-location of energy facilities through the designation of "energy park" zones to increase certainty and facilitate power generation development and to provide for efficient use of land resources.	Consistent	See response above.
Imperial County General Plan, Ren	ewable Energy an	
Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing renewable energy facilities	Consistent	Please refer to Section 4.2, Agricultural Resources, for a description of existing agricultural resources within the project area and a discussion of potential impacts attributable to the projects. A biological resources report has been prepared for these projects, which is summarized in Section 4.4, Biological Resources, along with potential impacts attributable to the projects. With incorporation of mitigation identified in Sections 4.2, Agricultural Resources and 4.4, Biological Resources, less than significant impacts would result. A biological resources report has been prepared for these projects, which is summarized in Section 4.4, Biological Resources, along with potential impacts attributable to the projects. With incorporation of mitigation identified in Sections 4.4, Biological Resources, less than significant impacts would result.

Applicable Policies	Consistency Determination	Analysis
Objective 1.7 Assure that development of renewable energy facilities and transmission lines comply with Imperial County Air Pollution Control District's regulations and mitigation measures	Consistent	Due to the minimal grading of the site during construction and limited travel over the site during operations, local vegetation is anticipated to remain largely intact which will assist in dust suppression. Furthermore, dust suppression will be implemented including the use of water and soil binders during construction. Chapter 4.3, Air Quality, discusses the projects' consistency with the ICAPCD in more detail.
Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors easements, and rights-of-way.	Consistent	The projects involve the construction and operation of new renewable energy infrastructure that would interconnect with other transmission infrastructure thereby maximizing the use of existing facilities. The project sites will be interconnected to IID's electrical distribution systems at existing IID12kV distribution lines (Pole No. T-51071 and T-18700).
Goal 8: Develop overlay zones that will facilitate the development of renewable energy resources while preserving and protecting agricultural, natural, and cultural resources. Development of overlay zones shall include coordination with Federal, State, County, Tribal governments, educational entities, the public and local industries.	Consistent	As shown in Figure 3-3, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. Benefits associated with the development of renewable energy as identified by the Renewable Energy and Transmission Element is the minimization of impacts to the local community, agricultural and sensitive environmental resources; including the reduction of greenhouse gases. Review and approval of the projects and associated discretionary permits will require coordination among Federal, State, County, Tribal governments, educational entities, the pubic and local industries.
Imperial County Land Use Compat	ibility Plan	
Safety Objective 2.1. The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport accident or emergency landing.	Consistent	The project sites are not located within a designated ALUCP area.
Southern California Area of Govern	nments Regional	Comprehensive Plan and Regional Transportation Plan
Objective 3.05: Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.	Consistent	The projects involve the construction and operation of new renewable energy infrastructure that would interconnect with existing IID electrical transmission infrastructure thereby maximizing the use of existing facilities. The projects would not involve new forms of urban development that could other increase demands for existing infrastructure.
Objective 3.14: Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.	Consistent	The projects do not propose an increase in urban densities along regional commuter rail, transit systems, and activity centers and is not in proximity to these areas.
Objective 3.16: Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.	Consistent	The projects are located in an agriculturally designated portion of unincorporated Imperial County and would not discourage new development in and around existing activity centers, transportation corridors, underutilized infrastructure systems, or areas in need of recycling and redevelopment.
Objective 3.17: Support and encourage settlement patterns which contain a range of urban densities.	Consistent	The project would not increase urban densities because the projects consist of new renewable energy infrastructure and not residential or commercial development.

Applicable Policies	Consistency Determination	Analysis
Objective 3.18: Encourage planned development in locations least likely to cause adverse environmental impact.	Consistent	The projects are not characterized as "Planned Development" and are appropriately located to minimize adverse impacts to sensitive lands uses and take advantage of anticipated utility infrastructure needs.
RTP G6: Encourage land use and growth patterns that complement our transportation investments and improve the cost-effectiveness of expenditures.	Consistent	See discussion under Policy 3.16 above.
GV P1.1: Encourage transportation investments and land use decisions that are mutually supportive.	Consistent	See discussion under Policy 3.16 above.
GV P4.2: Focus development in urban centers and existing cities.	Consistent	The projects consist of new renewable energy infrastructure and do not include residential or commercial forms of development that should otherwise be directed toward urban centers or existing cities.
GV P4.3: Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	Consistent	See discussion under Policy 3.16 above.

Source: Imperial County General Plan 2008, as amended, SCAG Regional Comprehensive Plan and Regional Transportation Plan 2008.

County of Imperial Land Use Ordinance

The County's Land Use Ordinance provides the physical land use planning criteria for development within the jurisdiction of the County. As depicted in Figure 4.10-1, the project sites are zoned General Agriculture (A-2). The purpose of the A-2 zoning designation is to "designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses" (County of Imperial 1998). Uses in the A-2 zoning designation are limited primarily to agricultural-related uses and agricultural activities that are compatible with agricultural uses.

Sections 90508.02 and of the Land Use Ordinance identify the permitted and conditional uses within the A-2 zoning designation. Uses identified as conditionally permitted require a Conditional Use Permit (CUP), which is subject to the discretionary approval of the County Board of Supervisors (Board) per a recommendation by the County Planning Commission. The projects include several uses identified as conditionally permitted within the A-2 zone. These uses include facilities for the transmission of electrical energy (100-200 kV); solar energy plants; and solar energy electrical generators. Sections 90508.07 of the Land Use Ordinance limits the height of all non-residential structures within the A-2 zone to 120 feet. Specifically, Sections 90508.07 (C) states, "Non-Residential structures and commercial communication towers shall not exceed one hundred twenty (120) feet in height, and shall meet ALUC Plan requirements."

County of Imperial Right to Farm Ordinance No. 1031

The County of Imperial Right to Farm Ordinance (No. 1031) was approved by the County Board of Supervisors on August 7, 1990. The purpose and intent of the Ordinance is to reduce the loss to the County of its agricultural resources by clarifying the circumstances under which agricultural operations may be considered a nuisance. The Ordinance permits operation of properly conducted agricultural operations within the County. The Ordinance promotes a good neighbor policy by disclosing to purchasers and users of adjacent properties the potential problems and inconveniences associated with agricultural operations.

Imperial County Airport Land Use Compatibility Plan

The eastern border of the project area is located approximately 6.0 miles southwest of the Naval Air Facility El Centro. According to the Imperial County Airport Land Use Compatibility Plan (ALUCP) for Naval Air Facility El Centro, no portion of the project area is located within the Naval Air Facility El Centro land use capability zones (County of Imperial ALUCP 1996). The Navel Air Facility El Centro Compatibility Zones are derived from the Air Installation Compatible Use Zones (AICUZ) developed by the Navy for the air base. The Suggested Land Use Compatibility criteria in the AICUZ are consistent with ALUCP. Criteria of the ALUCP will take precedence over the AICUZ if any discrepancies are to occur.

4.10.1.2 Existing Conditions

DESF consists of three parcels totaling 21 acres. The DESF project site is generally located between the Westside Main Canal to the east and the Dixieland Substation to the west with W. Evan Hewes Highway to the south. Primary and secondary access to DESF is via W. Evan Hewes Highway to Brown Road. The DESF project consists of the following APNs: 051-047-001, 051-035-001, and 051-035-002. DESF is generally level and is currently vacant desert land. As shown in Figure 4.10-1, the on-site zoning designation is A-2.

DWSF consists of one parcel totaling 29 acres. DWSF is generally bounded by W. Evan Hewes Highway to the south, vacant land to the west and north, and the Dixieland Substation on the east. The Imperial Lakes Water Ski Community is located approximately 1,500 west of the DWSF project site. Primary and secondary access to the DWSF is via W. Evan Hewes Highway to Carriso Avenue. Carriso Avenue extends north of W. Evan Hewes Highway along the eastern perimeter of the site. The Imperial Irrigation District's (IID) existing electrical distribution line runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement. The DWSF project consists of the following APN: 034-390-026. As shown in Figure 4.10-1, the on-site zoning designation is A-2. DWSF is generally level and is currently vacant desert land.

Electricity generated by DESF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-18700) that runs north-south along Broadway Avenue by way of a gen-tie line that would cross Brown Avenue and run east-west along the southern boundary of the DESF site. Electricity generated by DWSF would be interconnected to the IID electrical distribution system at an existing IID 12kV distribution line (Pole Number T-51071) that runs north-south along the eastern edge of the project site along Carriso Avenue and within the existing 140-foot wide IID transmission easement on the DWSF site. The electricity generated by the projects would be transferred to IID's Dixieland Substation. The point of interconnection(s) is depicted on Figure 3-4.

4.10.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to land use and planning, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.10.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to land use and planning are considered significant if any of the following occur:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating a significant environmental effect: or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

4.10.2.2 Methodology

This analysis evaluates the projects' consistency with applicable federal, state, and local land uses plans and policies. In order to analyze land-use consistency and land-use impacts, the following approach was employed:

- The projects were reviewed relative to the land-use assumptions, policies, and designations of the Imperial County General Plan and applicable land-use plans, policies, and regulations; and
- The projects were reviewed to identify any potential conflicts between the proposed land uses and existing or proposed land uses in the vicinity.

In some instances, the land use for the project poses potential physical environmental consequences, such as traffic. In these cases, the consequences are discussed in the specific section of this EIR that focuses on that issue. Conceptual site plans for the projects were also used to evaluate potential impacts. These conceptual exhibits are provided in Figures 3-5 and 3-7.

Given that the projects involve the potential construction and operation of solar energy facilities and supporting infrastructure that would be able to take advantage of regional transmission infrastructure and favorable market demands, the projects would not include a residential or commercial component that could be subject to future blight conditions. For this reason, this analysis would not provide further consideration of issues relating to future urban decay or urban blight.

4.10.2.3 Impact Analysis

IMPACT Physically Divide an Established Community.

4.10-1 The projects would not physically divide an established community.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects are located in a sparsely populated, agriculturally zoned portion of Imperial County. On and off-site uses are comprised of irrigated agriculture with isolated residential structures scattered sparsely throughout the project area. The nearest residences to the DESF site are east of the canal along Foxglove Street, and in a trailer located at the northwest corner of the West Evan Hewes Highway and Canal Street. Another single family residence adjacent to DESF is approximately 120 feet west of the western edge of the site, adjacent to the IID substation. Approximately 1,500 feet west of DWSF is the Imperial Lakes Water Ski Community which includes 20 residences surrounding two man-made lakes. The land to the west of the canal, including the projects sites, is zoned for agricultural uses; however, a majority of the land is underutilized, vacant land. The nearest area of actively cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of DESF. As a result, the implementation of the projects would not divide an established community. The nearest residentially designated land uses are located over four miles east in the community of Seeley. For these reasons, no significant impact would result

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.10-2

Conflict with Applicable Land Use Plan, Policies, or Regulations.

The projects could conflict with an applicable land-use plan, policy, or regulation of an agency with jurisdiction over the projects (including, but not limited to the general plan, airport land use plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

Dixieland East Solar Farm and Dixieland West Solar Farm

The County's General Plan applies to the solar energy facility and supporting infrastructure portions associated with the projects. These components are located within the jurisdiction of the County of Imperial. Solar energy facilities are not specifically referenced in the Land Use Element of the General Plan, other than a statement in the Imperial County Land Use Element that "Electrical and other energy generating facilities are heavy industrial uses, except geothermal, hydroelectric, wind, solar facilities may be regulated differently than other types of power plants by implementing zoning." However, the Land Use Element recognizes that geothermal plants, a similar use to the extent that it represents a renewable energy resource, are permitted uses within the "Agriculture" land use category, subject to approval of a Conditional Use Permit (CUP) and environmental review. In this context, with the approval of a CUP and completion of a supporting environmental analysis, as provided in this EIR, the projects' solar facilities are allowed under as a conditionally permitted use.

As discussed previously in this section, Imperial County has received funding from the CEC Renewable Energy and Conservation Planning Grant to amend and update the County's General Plan in order to facilitate future development of renewable energy projects. As part of the CEC grant, the 2006 Geothermal/Alternative Energy and Transmission Element and 1993 Conservation/Open Space Element will be updated. The County has recently prepared an update to the existing Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. This Element is still in draft form and pending adoption. Although CEQA does not require an analysis of draft plans, a consistency analysis of the project with the Renewable Energy and Transmission Element is provided in Table 4.10-1. As shown in Table 4.10-1, if adopted, the proposed projects would be generally consistent with the goals and objectives of the Renewable Energy and Transmission Element.

Development of the solar facility is subject to the County's zoning ordinance. Pursuant to Title 9, Division 5, Chapter 8, "Solar energy electrical generator," "Electrical power generating plant," "Major facilities relating to the generation and transmission of electrical energy," and "Resource extraction and energy development," are uses that are permitted in the A-2 zone subject to approval of a CUP from the County.

The Land Use Compatibility Matrix (see Table 4.10-1 of the Land Use Element) identifies land designated as "Agriculture" as compatible with lands zoned A-2. As described above, the project facilities are a conditionally permitted use under the A-2 zone, and, therefore, are considered consistent with the Agriculture General Plan land use designation. As a result, no General Plan land use amendment would be required for construction and operation of the solar facility. In this context and based on the findings in Table 4.10-1, which presents a summary determination of the consistency of the projects with the relevant plans and polices, the projects are generally consistent with the County's General Plan, Land Use Element, and **no significant impact** would occur.

Compatibility with Adjacent Uses

The solar energy facility portions of the projects are not in proximity to urban areas and are generally surrounded by vacant desert land. However, as shown in Figure 4.3-1, Sensitive Receptors, the nearest residence (a mobile home) is adjacent to the DESF site to the east, 175 feet from the project boundary where construction equipment would be used. Eight more residences (four houses and four mobile homes) are located east of the project across the Westside Main Canal with the closest construction noise approximately 350 feet from the nearest residence. South of the DWSF site are two rural residences, with the nearest located approximately 350 feet from the project. The Imperial Lakes Water Ski Community) is located west of DWSF. This development includes 20 residences (mobile homes). The

eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. No residences are located immediately to the north. As shown, sensitive uses that are generally located at distances of greater than 1,000 feet from proposed facilities and, therefore, unlikely to result in nuisance-related impacts, such as noise, glare, or access disruptions that could otherwise conflict with adjacent uses (see Sections 4.1, Aesthetics, 4.3, Air Quality, 4.8, Hazards and Hazardous Materials, and 4.11, Noise and Vibration). Noise associated with solar panel operation (e.g., tracking) would also meet the County's noise ordinance requirements at the projects' property lines. Based on these considerations and the fact that the projects are an allowable use within the applicable agricultural zoning designation, the projects would result in **less than significant** land use conflicts with adjacent uses.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Conflict with an Adopted Habitat Conservation Plan or Natural Communities Conservation 4.10-3 Plan.

The projects would not conflict with any applicable habitat conservation plan or natural community conservation plan.

Dixieland East Solar Farm and Dixieland West Solar Farm

The project sites are not within the boundaries of any adopted habitat conservation plan (HCP) (16 USC §1539) or natural community conservation plan (NCCP) (Cal. Fish & Game Code §2800 et seq.). The County is not within the boundary of any adopted HCP or NCCP. Based on these considerations, the project solar energy facilities and supporting infrastructure would not conflict with any HCP or NCCP and would result in **no significant impact**.

Mitigation Measure

No mitigation measures are required.

4.10.3 Decommissioning/ Restoration and Residual Impacts

Decommissioning/Restoration

No impacts to land use and planning are anticipated to occur during decommissioning and restoration of the project sites after their 20 year life. Decommissioning and restoration would not physically divide an established community or conflict with any applicable land use or habitat conservation plan. Through each projects decommissioning and subsequent restoration to pre-project conditions, the uses of the project sites (agricultural) would remain consistent with the General Plan and zoning designations of the sites, which allow agricultural uses. Therefore, **no impact** is identified and no mitigation is required.

Residual

With the approval of a CUP and reclamation plan to address post-project decommissioning, the projects would generally be consistent with applicable federal, state, regional, and local plans and policies. Likewise, the projects would not conflict with the provisions of an adopted HCP or NCCP. Based on these circumstances, the projects would not result in any residual significant and unmitigable land use impacts.

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4.11 NOISE AND VIBRATION

This section provides a description of the existing ambient noise environment for the project area and describes applicable federal, state, and local regulations (Section 4.11.1). Potential noise or vibration impacts associated with the project-related facilities, as described in Chapter 3.0, Project Description, are considered in Section 4.11.2 and, if necessary, mitigation is proposed based on the anticipated level of significance. Section 4.11.3 concludes by describing significant residential impacts following the application of mitigation, if any. The noise and vibration impact assessment in Section 4.11.2 provides an evaluation of potential adverse effects based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines and an analysis completed in the Construction Noise Memo, prepared by HDR Engineering (HDR 2015), included in Appendix J.

4.11.1 Environmental Setting

Noise is defined as unwanted sound. Pressure waves traveling through air exert a force registered by the human ear as sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level), which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. Consequently, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz (Hz) and above 5,000 Hz to imitate the human ear's decreased sensitivity to low and extremely high frequencies. This emulation of the human ear's frequency sensitivity is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). Frequency A weighting follows an international standard method of frequency de-emphasis and is typically applied to community noise measurements. In practice, the specific sound level from a source is measured using a meter incorporating an electrical filter corresponding to the A-weighting curve. All noise levels reported are A-weighted unless otherwise stated.

Noise Exposure and Community Noise

Community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources that constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. Community noise is constantly changing throughout the day due to short duration single event noise sources, such as aircraft flyovers, vehicle passbys, and sirens. These successive additions of sound to the community noise environment vary the community noise level from instant to instant. This requires the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below (Caltrans 1998):

- L_{eq}: the equivalent sound level is used to describe noise over a specified period of time, typically
 one hour, in terms of a single numerical value. The L_{eq} is the constant sound level which would
 contain the same acoustic energy as the varying sound level, during the same time period (i.e.,
 the average noise exposure level for the given time period).
- L_{max}: the instantaneous maximum noise level for a specified period of time.
- L_{dn}: 24-hour day and night A-weighed noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night ("penalizing" nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises. Similar to L_{dn}, Community Noise Equivalent Level (CNEL) adds a 5 dBA "penalty" for the evening hours between 7 p.m. and 10 p.m. in addition to a 10 dBA penalty between the hours of 10 p.m. and 7 a.m.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- 1. Subjective effects of annoyance, nuisance, dissatisfaction;
- 2. Interference with activities such as speech, sleep, learning; and
- 3. Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial settings can experience noise in the last category. A satisfactory method for measuring the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction does not exist. However, a wide variation in individual thresholds of annoyance does exist, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted; i.e., the "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise would be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur (Caltrans 1998):

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a nonlinear fashion hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather they combine logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined sound level would be 53 dB, not 100 dB. Because of this sound characteristic, if there are two noise emission sources, one producing a noise level greater than 9 dB than the other, the contribution of the quieter noise source is negligible and the sum of the noise sources is that of the louder noise source.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement (Caltrans 1998).

The project area is characterized as a desert landscape and, therefore, soft surfaces are generally present throughout.

4.11-2

4.11.1.1 Regulatory Setting

This section presents federal, state, and local laws, plans, and regulations governing noise levels and allowable limits applicable to the projects.

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck passby noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers. In addition to noise standards for individual vehicles, under regulations established by the U.S. Department of Transportation's Federal Highway Administration (FHWA), noise abatement must be considered for certain federal or federally-funded projects. Abatement is an issue for new highways or significant modification of an existing freeway. The agency must determine if the project would create a substantial increase in noise or if the predicted noise levels approach or exceed the Noise Abatement Criteria.

State

The state has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (California Code of Regulations, Title 24). The noise insulation standards set forth an interior standard of L_{dn} 45 dB for any habitable room. They also require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than L_{dn} 60 dB. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR) in 1998, also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours. The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution. The County of Imperial has utilized the adjustment factors provided and has modified the state's Land Use Compatibility standards for the purpose of implementing the Noise Element of its General Plan. Table 4.11-1 summarizes the acceptable and unacceptable community noise exposure limits for various land use categories as currently defined by the State of California. These community noise exposure limits are also incorporated into the County of Imperial General Plan Noise Element.

Local

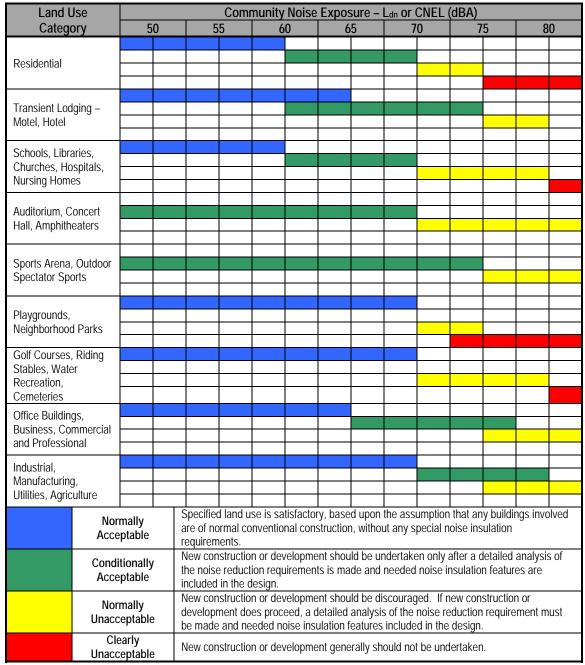
County of Imperial General Plan

The County of Imperial General Plan Noise Element identifies and defines existing and future environmental noise levels from sources of noise within or adjacent to the County of Imperial; establishes goals and objectives to address noise impacts, and provides Implementation Programs to implement adopted goals and objectives. Table 4.11-2 summarizes the projects' consistency with the applicable General Plan noise policies. While this Environmental Impact Report (EIR) analyzes the projects' consistency with the General Plan pursuant to State California Environmental Quality Act (CEQA) Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Noise Impact Zones. A Noise Impact Zone is an area that is likely to be exposed to significant noise. The County of Imperial defines a Noise Impact Zone as an area which may be exposed to noise greater than 60 dB CNEL or 75 dB L_{eq}(1).

4.11-3

TABLE 4.11-1. LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source: OPR 1998; Imperial County General Plan 2008, as amended.

TABLE 4.11-2. PROJECT CONSISTENCY WITH APPLICABLE GENERAL PLAN NOISE POLICIES

General Plan Policies	Consistency with General Plan	Analysis
1. Acoustical Analysis of proposed projects. The County shall require the analysis of proposed discretionary projects, which may generate excessive noise, or which may be impacted by existing excessive noise levels.	Consistent	Under existing conditions, the ambient noise environment is characterized as relatively quiet with peak noise levels influenced by vehicular traffic and off-site agricultural operations. Given that the projects are not characterized as a sensitive land use, project facilities would be unaffected by existing noise levels. The project facilities would be constructed within areas zoned for agricultural use with noise levels up to 70 dBA identified as normally acceptable. Project operations are expected to produce noise levels that would not exceed County standards and, hence impacts are expected to be less than significant. This EIR provides an analysis of the potential short- and long-term noise impacts of the projects. As discussed, short-term and long-term noise levels were
2. Noise/Land Use Compatibility. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate potential noise/land use conflicts that could result from the implementation of the project. Projects which may result in noise levels that exceed the "Normally Acceptable" criteria of the Noise/Land Use Compatibility Guidelines shall include mitigation measures to eliminate or reduce the adverse noise impacts to an acceptable level.	Consistent	found to be less than significant. Noise levels associated with project operations are unlikely to exceed noise limits for the A-2 zone. See Section 4.11.1.2 for additional discussion.
4. Interior Noise Environment. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate projects to ensure compliance to the California (Title 24) interior noise standards and the additional requirements of this Element.	Consistent	As described under General Plan Noise Policy 1, short-term and long-term noise impacts would be minimized through the implementation of the prescribed mitigation. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2 zone.
5. New Noise Generating projects. The County shall identify and evaluate projects which have the potential to generate noise in excess of the Property Line Noise Limits. An acoustical analysis must be submitted which demonstrates the project's compliance.	Consistent	As described under General Plan Noise Policy 1, short-term and long-term noise impacts would be minimized through the implementation of the prescribed mitigation. Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2 zone.
6. Projects Which Generate Off-site Traffic Noise. The acoustical analysis shall identify and evaluate projects which will generate traffic and increase noise levels on off-site roadways. If the project site has the potential to cause a significant noise impact to sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact to a level less than significant.	Consistent	As described in Chapter 3, the projects would involve a minimal number of operational related vehicle trips and therefore, is unlikely to produce any increase in traffic noise levels on local roadways.

Source: Imperial County General Plan Noise Element.

The County of Imperial has established the following interior noise standards to be considered in acoustical analyses:

- The interior noise standard for detached single family dwellings shall be 45 dB CNEL; and
- The interior noise standard for schools, libraries, offices and other noise-sensitive areas where
 the occupancy is normally only in the day time, shall be 50 dB averaged over a one-hour period
 (L_{eq}(1)).

Construction Noise Standards

Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq} when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual receptor of days or weeks.

Construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m., Monday through Friday, and 9 a.m. to 5 p.m. Saturday. No construction operations are permitted on Sundays or holidays.

County of Imperial Noise Ordinance

Noise generating sources in Imperial County are regulated under the County of Imperial Codified Ordinances, Title 9, Division 7 (Noise Abatement and Control). Noise limits are established in Chapter 2 of this ordinance. Under Section 90702.00 of this rule, 70 dB is the normally acceptable limit for the Industrial, Manufacturing, Utilities, and Agricultural category of land use (Table 4.11-3).

Land Use Zone Time Period Noise Level, Leg 1-hour R-1 Residential Night (10 p.m. to 7 a.m.) 45 dBA Day (7 a.m. to 10 p.m.) 50 dBA Night (10 p.m. to 7 a.m.) 50 dBA R-2 Residential Day (7 a.m. to 10 p.m.) 55 dBA R-3, R-4, & all other residential Night (10 p.m. to 7 a.m.) 50 dBA Day (7 a.m. to 10 p.m.) 55 dBA Commercial Night (10 p.m. to 7 a.m.) 55 dBA Day (7 a.m. to 10 p.m.) 60 dBA Manufacturing, other industrial, 70 dBA Anytime agricultural, and extraction industry Industrial Anytime 75 dBA

TABLE 4-.11-3. IMPERIAL COUNTY EXTERIOR NOISE STANDARDS

Source: Imperial County Municipal Code Section 90702.00.

Imperial County Right-to-Farm Ordinance

In recognition of the role of agriculture in the county, the County of Imperial has adopted a "right-to-farm" ordinance (County of Imperial Codified Ordinances, Division 2, Title 6: Right to Farm). A "right-to-farm" ordinance creates a legal presumption that ongoing standard farming practices are not a nuisance to adjoining residences and requires a disclosure to land owners near agricultural land operations or areas zoned for agricultural purposes. The disclosure advises persons regarding potential discomfort and inconvenience that may occur from operating machinery as a result of conforming and accepted agricultural operations.

4.11.1.2 Existing Conditions

The project sites are designated as Agriculture under the County's General Plan (as amended through 2008). The project sites are located within the General Agriculture (A-2) zoning designation (as shown in

4.11-6

Figure 4.10-1, General Plan Land Use and Zoning Designations). Additional surrounding zoning designations include; Heavy Agriculture (A-3), General Agriculture Rural Zone (A-2), General Agricultural Rural Zone (A-2-R), Government/Special Public (GS), Specific Plan Area (SPA), which includes a Recreational Zone (F), Medium Commercial Pre-Existing (C2-PE), and Medium Industrial (M-2).

Surrounding land uses consist of vacant desert land, as well as scattered rural lots, agriculture, and approximately 31 residences. The nearest sensitive receptor is located 175 feet (between the project sites) from the nearest project boundary. A total of eight residences are located east of the projects across the Westside Main Canal, with the nearest sensitive receptor located 350 feet from the nearest construction area. Two residences are located approximately 350 feet south of the project sites. The Imperial Lakes Water Ski Community is located west of DWSF. This development includes 20 residences (mobile homes). The eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. The Centinela State Prison is located approximately two miles northwest.

All of these residences are located on tax lots (i.e., parcels) Agricultural (A-2) except for the Imperial Lakes Water Ski Community which is zoned SPA. The SPA is zoned Recreational, which does not require specific noise requirements (Imperial Lakes Specific Plan 1995). For the purposes of assigning noise level limits based on zoning, A-2 is limited to 70 dBA Leq 1-hour day and evening hours and SPA is limited to 55 dBA Leq 1-hour during the daytime and 50 dBA Leq 1-hour at night. These noise limits refer to noise and land use characteristics and do not apply to construction noise.

The predominant source of noise in the project area includes vehicular traffic on local roads and highways, and off-site agricultural operations. The use of heavy-duty equipment such as front-end loaders, tractors, forklifts, and diesel-powered trucks are common noise sources typically associated with agricultural uses. Agricultural operational equipment can reach maximum levels of approximately 84 dBA at 50 feet (Caltrans 2013). With the soft surfaces characterizing the agricultural landscape, these noise levels attenuate to approximately 60 dBA at distances over 800 feet. Based on field observations of the project sites, the existing noise environment is generally influenced by the noise produced from the following sources:

- Vehicle traffic along West Evan Hewes Highway, and
- Agricultural operations occurring east of the project sites.

Based on the availability of a previously prepared noise study in conjunction with a recently approved Imperial Solar Energy Center West Project (Imperial County 2011), which is approximately 0.55 miles south of the project area, the proximity of the measurements, and timing in which the data was collected (2010), the previously-acquired noise measurements are considered to be representative of existing conditions and appropriate for use in this EIR. Based on this circumstance, these measures were used to characterize ambient noise conditions for the project sites.

The ambient noise levels within the project area are generally representative of an extremely rural agricultural setting with quiet ambient noise levels of 40.3~dBA L_{eq} and periodic peak noise levels of $58.0~\text{L}_{\text{max}}$ from far-field agricultural operations (Imperial County 2011). In addition to site-specific ambient noise sampling, the EIR prepared for the Imperial Solar Energy Center West Project included traffic modeling of the local roadway network. The existing (2010) traffic noise levels in the Imperial Energy Center Solar West study area were established in terms of the CNEL metric by modeling the roadway for the current traffic and speed characteristics. In general, the 60~CNEL contour for all roadways within the project study areas, which includes Evan Hewes Highway, extends 42~feet or less from the roadway centerline (see Imperial Solar Energy Center West Final Environmental Impact Report/Environmental Assessment (EIR/EA), Section 3.8, page 3.8-11).

4.11-7

Sensitive Receptors

Although noise pollution can affect all segments of the population, certain groups and land uses are considered more sensitive to ambient noise levels than others, sensitivity being a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. Children, the elderly, and the chronically or acutely ill are the most sensitive population groups..

Residential land uses are also generally more sensitive to noise than commercial and industrial land uses. Sensitive residential uses adjacent to the project area (within approximately 1,500 feet) are shown on Figure 4.3-1 (see Section 4.3, Air Quality), and include the following:

- Dixieland East Solar Farm The nearest residence (a mobile home) is adjacent to the DESF site to the east, 175 feet from the project boundary where construction equipment would be used. Eight more residences (four houses and four mobile homes) are located east of the project across the Westside Main Canal with the closest construction noise approximately 350 feet from the nearest residence.
- **Dixieland West Solar Farm** South of the project are two rural residences, with the nearest located approximately 350 feet from the project. The Imperial Lakes Water Ski Community is located west of DWSF. This development includes 20 residences (mobile homes). The eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. No residences are located immediately to the north.

Groundborne Vibration

Groundborne vibration consists of rapidly fluctuating motions or waves, which are also measured in decibels. Construction activities, train operations, and street traffic are some of the most common external sources of vibration that can be perceptible inside structures. Differences in subsurface geologic conditions and distance from the source of vibration will result in different vibration levels characterized by different frequencies and intensities. In all cases, vibration amplitudes will decrease with increasing distance. High frequency vibrations reduce much more rapidly than low frequencies, so that low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances.

Human response to vibration is difficult to quantify. Vibration can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does frequency. Generally, as the duration and vibration frequency increase, the potential for adverse human response increases. While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings may be perceived as motion of building surfaces or rattling of windows, items on shelves, and pictures hanging on walls. Vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise.

Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when the structure and the source of vibration are connected by foundations or utilities, such as sewer and water pipes. To assess a project's vibration impacts, the Caltrans 2004 vibration impact assessment, entitled the "Transportation and Construction-Induced Vibration Guidance Manual," was utilized. The guidance manual uses peak particle velocity (PPV) to quantify vibration amplitude. PPV is defined as the maximum instantaneous peak of the vibratory motion (Caltrans 2004). As a point of reference, a strongly perceived transient source is 0.90 PPV at 25 feet, and 0.10 PPV at 25 feet for an intermittent source. Table 4.11-4 identifies acceptable vibration limits for transportation and construction projects based on guidelines prepared by Caltrans.

TABLE 4.11-4. TYPICAL GROUNDBORNE VIBRATION THRESHOLDS

Structure and Condition	Transient Sources PPV at 25 feet (in/sec)	Continuous/Frequent Intermittent Sources PPV at 25 feet (in/sec)
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.20	0.10
Historic and some old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures with gypsum board walls/ceilings	1.00	0.50
Modern Industrial/commercial buildings	2.00	0.50
Strongly perceptible	0.90	0.10

Source: Caltrans 2004.

Notes: PPV = Peak particle velocity In/sec = Inches per second

4.11.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to noise and vibration, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.11.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to noise and vibration would be considered significant if any of the following occurs:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;
- Create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

4.11.2.2 Methodology

The significance of project-related noise impacts was determined by comparing estimated project-related noise levels, based on published literature (Imperial Solar Energy Center West EIR/EA, Imperial County 2011), and noise analysis completed by HDR Engineering for construction related noise (Appendix J of this EIR). For the purposes of analysis, an increase of at least 3 dBA is usually required before most people will perceive a change in noise levels, and an increase of 5 dBA is required before the change will be clearly noticeable. Based on the County's criteria, exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance would occur if:

4.11-9

- 1. Post-project noise levels will be greater than the "conditionally acceptable," "normally acceptable," or "clearly acceptable" noise levels as shown in Table 4.11-4 for Industrial, Manufacturing, Utilities and Agriculture Uses (or generally greater than 70 dB); or
- 2. Construction noise will be greater than 75 dB L_{eq} over an eight-hour period from the nearest sensitive receptor (see Figure 4.3-1, Sensitive Receptors).

The conceptual site plans (Figures 3-5 and 3-7) for the projects were used in considering distances from sensitive receptor locations. The project area is characterized as a desert landscape and, therefore, soft surfaces are generally present throughout. Given the soft surfaces present on the project sites, noise attenuation was assumed to be 7.5 dBA for stationary sources and 4 dBA for line sources (e.g. vehicles). As provided in Chapter 3, Project Description, the projects would generate a low volume of daily vehicle trips under project operations and these trips would be distributed throughout the project sites. Based on this circumstance and experience with projects of similar land use and development intensity, project-related increases traffic noise levels on off-site roadways were assumed to be less than 3.0 dBA as measured from residential receptor locations illustrated in Figure 4.3-1.

4.11.2.3 Impact Analysis

IMPACT 4.11-1

Temporary, Short-Term Exposure of Sensitive Receptors to Increased Equipment Noise from Project Construction.

The projects could expose persons to or generate noise levels in excess of applicable County standards.

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction of the projects would occur in rural portions of southwestern Imperial County. Over the entire span of the combined 53-acre area, which comprises the two project sites, there is only one residence that would be located within 200 feet of project construction and five residences are located between 300 to 500 feet from the project boundary. The remaining 20 residences (mobile homes) that are part of the Imperial Lakes Water Ski Community are located over 1,500 feet west of DWSF. Construction activities would generally involve grading, earth movement, stockpiling, steel work, and truck hauling. Similar activities would occur upon site decommissioning. These activities would generate temporary and intermittent noise at and near the project sites. Noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. In addition, construction-related material haul trips would raise ambient noise levels along haul routes depending on the number of haul trips and the types of vehicles used. Table 4.11-5 shows typical noise levels produced by various types of construction equipment at a distance of 50 feet.

Composite Noise Level (L_{eq 1-hour}) at 50 feet Equipment Noise Level, L_{max} at 50 feet Vibratory Post driver 85 Crawler/Tractor/Dozer 82 79 Dump, Concrete, Tender Truck Forklift/aerial lift/boom 81 Generator/Compressor 81 Grader/Scraper 85 87 Roller/Compactor 80 Tractor/Loader/Backhoe 79 Vibratory Plate (handheld) 83 Flatbed Truck 74

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TABLE 4.11-5. TYPICAL NOISE LEVELS FOR CONSTRUCTION EQUIPMENT

Source: Federal Highway Administration Roadway Construction Noise Model, FHWA 2006.

Water Truck

In addition to actual solar array grid installation, staging areas located at various points within the project sites and directed out of a more centralized location. These areas would be used to store PV solar panels, equipment, and other construction related material. In some cases, staging areas would be used for the duration of project construction. In other cases, the area would be moved to another location within the project sites to minimize the hauling distances and avoid disrupting any one area for an extended period of time. Staging areas could be noticeable sources of noise, particularly if equipment is accessed and moved during evening hours when individuals are more sensitive to intrusive noise.

Construction sound will attenuate with increased distance from the sound sources. Composite Leq _{1-hour} sound levels at distances out to a distance of 1,000 feet were calculated assuming spherical free-field spreading, see Table 4.11-6. Other factors, such as vegetation, ground effects, terrain and obstacles, such as buildings, will act to limit the impact of construction noise levels, but were not considered in the evaluation. Actual received sound levels will fluctuate, depending on the construction activity, equipment type, and separation distances between source and receiver. As a general construction practice, functional mufflers will be maintained on all equipment to maintain noise levels as low as reasonably achievable.

Construction noise from the proposed projects was analyzed at the nearest sensitive receptors. Although the County's noise limits do not apply to construction noise, they do provide some context against which conclusions can be drawn. For the nearest sensitive receptors, the highest construction noise levels would be experienced when construction is nearest, identified as the mobile home residence located 175 feet east of the DESF site. At this distance, the received sound level would be 73 dBA Leq 1-hour; however, this sound level would only be experienced for a day or two at most since the construction is not stationary and will move throughout the project area. The sound level calculated at the project centroid would be considered an average for the duration of construction and would be approximately 1,300 feet from the nearest residential area. At this distance the received sound level would be 49 dBA Leq 1-hour. Because construction would be restricted to daytime hours over a period of 36 weeks for the entire project, the use of muffled equipment shall be kept in good working order, and would not exceed applicable regulatory limits. The associated construction noise impacts would be considered less than significant. Although no significant noise impact has been identified, Mitigation Measures NOI-1 through NOI-4 would ensure that noise would not rise to a level of significance.

TABLE 4.11-6. CONSTRUCTION NOISE LEVELS AT DISTANCE

Distance from Project Construction (feet)	Noise Level, L _{eq 1-hour} at 50 feet
175*	73
200	71
300**	66
400	63
500	60
600	58
700	57
800	55
900	54
1000	52

Source: HDR, 2015 (Appendix J)

Notes: * Distance to nearest sensitive receptor. **Distance to second closest sensitive receptor.

Mitigation Measure(s)

The following mitigation measures are required for DESF and DWSF.

NOI-1 Limit Construction Hours. Construction and decommissioning activities shall be limited to daylight hours between 7 a.m. and 7 p.m. Monday through Friday, and 9 a.m. and

5 p.m. on Saturday for those construction areas that are located within 2,500 feet of noise-sensitive receptors. No construction shall be allowed on Sundays or holidays.

NOI-2

Minimize Noise from Construction Equipment and Staging. Construction equipment noise shall be minimized during project construction and decommissioning by muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications) and by shrouding or shielding impact tools, where used. The project applicant's construction specifications shall also require that the contractor select staging areas as far as feasibly possible from sensitive receptors. All contractor specifications shall include a requirement that equipment located within 2,500 feet of noise-sensitive receptors shall be equipped with noise reducing engine housings or other noise reducing technology such that noise levels are no more 85 dBA at 50 feet. If necessary the line of sight between the equipment and nearby sensitive receptors shall be blocked by portable acoustic barriers and/or shields to reduce noise levels.

NOI-3

Prohibit Non-Essential Noise Sources During Construction. No amplified sources (e.g., stereo "boom boxes") shall be used in the vicinity of residences during project construction or decommissioning.

NOI-4

Provide a Mechanism for Filing Noise Complaints. The project applicant shall provide a mechanism for residents, businesses, and agencies to register complaints with the County if construction noise levels are overly intrusive or construction occurs outside the required hours.

Significance After Mitigation

Although no significant noise impact has been identified, Mitigation Measures NOI-1 through NOI-4 would ensure that noise would not rise to a level of significance. Implementation of the above mitigation measures would reduce construction noise, so that construction and decommissioning-related noise levels would not exceed the Imperial County standards regarding construction noise.

IMPACT 4.11-2

Exposure to and/or Generation of Groundborne Vibration.

The projects would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction and site decommissioning activities associated with the projects would result in groundborne vibration, with the primary sources including solar array installation, grading activities, and other construction vehicle movements. In addressing the range of potential issues associated with ground vibration, there are generally two forms of impacts that should be addressed: (1) annoyance to individuals or the community; and (2) damage to buildings. Vibration from typical construction activities is typically below the threshold of perception when the activity is more than about 50 feet from the receiver. However, given that construction activities would not encroach within 100 feet of existing residential structures, the level of vibration impact at these receptors would be **less than significant**.

In relation to the potential for structural damage at adjacent residential and agricultural structures, PPV is the maximum instantaneous positive or negative peak of the vibration signal, measured as a distance per time (such as millimeters or inches per second). The PPV measurement has been used historically to evaluate shock-wave type vibrations from actions like blasting, pile driving, and mining activities, and their relationship to building damage.

As provided in Table 4.11-4, the level of potential impact resulting from project construction is generally contingent on the structural composition of the buildings potentially affected. As shown in Table 4.11-4, new residential structures with gypsum board walls/ceilings have a PPV threshold of 1.0 inches per

second (in/sec), respectively and would be the types of structures most likely to be impacted by project construction activities. No historical structures are presented within or adjacent to the project sites. Given that construction activities would employ the use of equipment similar to those identified in Table 4.11-7, would not involve the use of blasting, and would be situated 100 feet or more from existing structures, project construction is unlikely to generate vibration levels in excess of the thresholds identified in Table 4.11-4. For this reason, groundborne vibration-related impacts during construction and site decommissioning are expected to be **less than significant**.

TABLE 4.11-7. CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment PPV at 25 feet (in/sec)	Equipment PPV at 25 feet (in/sec)
Blasting	1.13
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.11-3

Permanent Increase in Ambient Noise Levels.

The projects could create a substantial permanent increase in ambient noise levels in the vicinity of new O&M and substation facilities.

Dixieland East Solar Farm and Dixieland West Solar Farm

As described in Section 4.11.1.2, the ambient noise levels within the project area are generally representative of an extremely rural agricultural setting with quiet ambient noise levels of 40.3 dBA $L_{\rm eq}$ and periodic peak noise levels of 58.0 $L_{\rm max}$ from far-field agricultural operations (Imperial County 2011).

The principle long-term, operational noise impacts resulting from the projects would include light duty vehicle traffic for maintenance operations, including solar panel washing, and low level of noise from high voltage transmission lines and transformers.

Operation of the solar facility would result in a minor increase in the use of motor vehicles, primarily associated with employees traveling to and from the facilities for routine maintenance and inspection activities. It is expected that no more than three part-time staff personnel would be on site at any one time for typical operation and maintenance of these facilities, most during typical working hours, 7 a.m.to 5 p.m. Assuming an average of one trip per day per employee, operation of the proposed facilities would result in a maximum of six round-trip employee trips per day. Due to the low volume of project-generated traffic, operation of the proposed facilities would not result in noticeable changes in the traffic noise along area roadways in relation to existing and projected roadway traffic volumes. As a result, long-term increases in traffic noise levels would be **less than significant**.

The projects would be required to comply with the County of Imperial Codified Ordinances Division 7 Noise Abatement and Control. This ordinance governs fixed operational noise within the project sites. Noise levels up to 70 dBA L_{dn} are identified as normally acceptable for the A-2 zone (see Table 4.11-1). The noise associated with operational facilities does not represent a significant noise source, and would involve less intensive activities and operation of equipment as compared to existing agricultural operations in the area. Furthermore, the noise generated during these collective operations would be

required to comply with the noise standards contained in the County's Noise Ordinance. This impact would be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Airport Noise.

4.11-4 The projects would not result in the exposure of people residing or working in the project area to

excessive noise levels from public and private airport operations.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects would not involve the construction of sensitive land uses. No O&M facilities are proposed that would expose people to excessive airport noise levels. The nearest airport or airstrip is located over six miles from the project sites; therefore, **no impact** is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.11.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning activities would result in similar activities that are involved during construction such as grading, earth movement, stockpiling, steel work, and truck hauling. These activities would generate temporary and intermittent noise. Noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. Although no significant noise impact has been identified during construction, Mitigation Measures NOI-1 through NOI-4 would ensure that noise would not rise to a level of significance. Implementation of these mitigation measures would reduce construction noise, so that construction and decommissioning-related noise levels would not exceed the Imperial County standards regarding construction noise. Therefore, impacts are considered **less than significant**.

Given that decommissioning activities would employ the use of equipment similar to those identified in Table 4.11-7, would not involve the use of blasting, and would be situated 100 feet or more from existing structures, decommissioning is unlikely to generate vibration levels in excess of the thresholds identified in Table 4.11-4. For this reason, groundborne vibration-related impacts during site decommissioning are expected to be **less than significant**.

Residual

As described in this section, the projects do not result in significant noise impacts during construction. However, Mitigation Measures NOI-1 through NOI-4 have been added to ensure that noise would not rise to a level of significance. Construction and decommissioning noise impacts would be **less than significant**. The noise associated with operational facilities does not represent a significant noise source, and would involve less intensive activities and operation of equipment as compared to existing agricultural operations in the area. Furthermore, the noise generated during these collective operations would be required to comply with the noise standards contained in the County's Noise Ordinance. The projects are situated at a sufficient distance where the effects of construction related vibration would **not impact** adjacent receptors.

4.12 PUBLIC SERVICES

This section includes an evaluation of potential impacts for identified public services that could result from implementation of the proposed projects. Public services typically include fire protection, law enforcement, schools, and other public facilities such as parks, libraries, post offices. Each subsection includes descriptions of existing facilities, service standards, and potential environmental impacts resulting from implementation of the proposed projects, and mitigation measures where appropriate. Section 4.14, Utilities/Service Systems, of this environmental impact report (EIR) evaluates impacts related to water supply, wastewater, and other utilities. The impact assessment provides an evaluation of potential adverse effects to public services based on criteria derived form the California Environmental Quality Act (CEQA) Guidelines in conjunction with actions proposed in Chapter 3, Project Description.

The Initial Study/Notice of Preparation prepared for this EIR determined that the projects would not result in impacts to schools, parks and other public facilities (libraries and post offices). Therefore, these issue areas will not be discussed further. The Initial Study/Notice of Preparation (IS/NOP) is included in Appendix A of this EIR.

4.12.1 Environmental Setting

The project area is located in unincorporated Imperial County, east of the City of El Centro and just north of Interstate 8 (I-8). The project sites are located within the Imperial County Fire Department and Office of Emergency Services (ICFD/OES) and the Imperial County Sheriff Department's areas of service.

State

Fire Codes and Guidelines

The California Fire Code (Title 24, Part 9 of the California Code of Regulations) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The Fire Code also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the Fire Code apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal, and demolition of every building or structure throughout the State of California (CBSC 2010). The Fire Code includes regulations regarding fire-resistance-rated construction, fire protection systems such as alarm and sprinkler systems, fire services features such as fire apparatus access roads, means of egress, fire safety during construction and demolition, and wildland-urban interface areas.

Local

Imperial County General Plan

The Imperial County General Plan Seismic and Public Safety Element contains goals and objectives that relate to fire protection and law enforcement pertinent to the proposed projects.

General Plan Policies	Consistency with General Plan	Analysis
Goal 1: Include public health and safety considerations in land use planning.	Consistent	The project Conditional Use Permit (CUP) applications and site plans will be reviewed by the Imperial County Fire Department to ensure that all site facilities comply with state and local fire codes and fire safety features are met.
Objective 1.8 Reduce fire hazards by the design of new developments.		Additionally, the project applicant has included site design measures into each of the projects to reduce the potential for fire hazards including on-site water tanks for the operations and maintenance, and sufficient turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide access road).

4.12-1

General Plan Policies	Consistency with General Plan	Analysis
Goal 2: Minimize potential hazards to public health, safety, and welfare and prevent the loss of life and damage to health and property resulting from both natural and human-related phenomena.	Consistent	See response above for a discussion on how the projects would implement all state and local fire codes and provide site design measures to reduce the potential for fire hazards. With regards to public safety and security, the projects would include perimeter security fencing with cameras, and controlled access gates.
Objective 2.5 Minimize injury,		
loss of life, and damage to		
property by implementing all		
state codes where applicable.		

Imperial County Office of Emergency Services – Multi-Hazard Mitigation Plan 2013

The Imperial County Fire Department (ICFD) is the local Office of Emergency services in Imperial County. The OES Coordinator is the County Fire Chief, who is assisted by an Assistant OES Coordinator who coordinates emergency operations activities, develops guidelines for emergency preparedness, response, recovery and mitigation to natural/man-made disasters, and technological disasters among all the jurisdictions. The jurisdictions include the cities of Brawley, Calexico, Calipatria, el Centro, Holtville, Imperial, and Westmoreland, the Imperial Irrigation District (IID) and the Imperial County Office of Education (ICEO). The Fire Department acts as the lead agency for the Imperial County Operational Area (OA) and provides leadership in all phases of developing the emergency management organization, including public education, training, EOC operations, interagency coordination, and plan development.

The 2013 Multi-Hazard Mitigation Plan (MHMP) is a comprehensive update of the 2009 MHMP. Partners included the IID and ICEO. The goal of the MHMP is to create a safer community by significantly reducing deaths, injuries, and other disaster losses cause by natural and human-caused hazards (Office of Environmental Services 2013). The MHMP complies with all federal, state and local laws guiding disaster management

County Evacuation Plans

As mentioned above, the Imperial County EOP provides guidance and procedures for the County to prepare for and respond to emergencies. The EOP designates the Sheriff's Department as having jurisdiction in an emergency involving evacuation within the unincorporated areas of the county and within contract cities.

4.12.1.2 Existing Conditions

Fire Protection Services

The project sites are located within the ICFD/OES area of service. ICFD/OES currently has seven fire stations serving the entire 4,500 square miles of unincorporated Imperial County. The stations are located in the following areas: Station 1, Imperial; Station 2, Heber; Station 3, Seeley; Station 4, Imperial (under contract with the City of Imperial); and Station 5, Palo Verde, Station 6 (Ocotillo), and Station 7 (Niland). The ICFD/OES currently has a total staff of 78 personnel with 8 staff personnel, 3 full-time suppression personnel, and 28 reserved personnel. All county stations are staffed 24 hours a day and 7 days a week with at least three fire fighters, except for Station 5, which has two persons 24/7 and now Station 7, which has two persons 24/7 and a supervisor from 8 a.m. to 5 p.m. (Imperial County Planning and Development 2015). The ICFD Emergency Units strive to respond immediately after receiving the initial tone for service. The actual response time would be determined by the area of response throughout the vast response area covered.

The closest fire station to the project sties is Station 3 at 1828 West Park in Seeley, California. This station is approximately 5 miles east of the project area.

Police Protection Services

Imperial County's sheriff's Department is responsible for police protection services in the unincorporated areas of Imperial County and the City of Holtville. The patrol function is divided between North County Patrol, South County Patrol, Palo Verde Patrol and Winterhaven Patrol. Deputies assigned to the Patrol Divisions are the "first responders" to a call for law enforcement service. The main patrol station is located in El Centro on Applestill Road. Sheriff substations are located in the communities of Brawley, Niland, Salton City, and Winterhaven with resident deputies located in the unincorporated community of Palo Verde. Under an existing mutual aid agreement, additional law enforcement services would be provided if and when required by all of the cities within the county as well as with Border Patrol and the California Highway Patrol (CHP). The Imperial County Sheriff's office has approximately 300 sworn, non-sworn, and civilian employees (Imperial County Planning and Development 2011) The CHP provides traffic regulation enforcement, emergency accident management, and service and assistance on state roadways and other major roadways in the unincorporated portions of Imperial County.

4.12.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to public services, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.12.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to public services are considered significant if the projects would result in the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection;
- Police protection;
- Schools:
- Parks; and
- Other public facilities.

As mentioned previously, it was determined through the preparation of an Initial Study that the projects would not result in impacts to schools, parks or other public facilities. Therefore, those issue areas will not be discussed further.

4.12.2.2 Methodology

Evaluation of potential fire and police service impacts of the proposed projects was based on consultation with the ICFD, Sheriff's Department and review of other development projects in the area.

4.12.2.3 Impact Analysis

IMPACT 4.12-1

Increased Demand on the ICFD.

Implementation of the projects would not result in the need for additional fire protection services during construction and operational activities.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects would result in a minor increase in demand for fire protection services over existing levels. No operations and maintenance (O&M) buildings are being proposed. Additional auxiliary facilities would include lighting, grounding, backup uninterruptable power supply (UPS) systems and diesel power generators, fire and hazardous materials safety systems, security systems, chemical safety systems, and emergency response facilities. The facilities will maintain the required volume of water required for fire fighting, based on the number and sizes of structures located on the sites. As discussed in Chapter 3.0 Description, two (2) 10,000 gallon water tanks on each project site (total of four) will be provided on-site. The water tanks would be located near the primary entrance of each project site. Portable fire extinguishers will also be provided at various locations throughout DESF and DWSF. Both the access and service roads (along the perimeter of the project facilities) would have turnaround areas to allow clearance for fire trucks per fire department standards (70 feet by 70 feet, and 20-foot-wide perimeter access road). Additionally, fire protection for the projects will be provided by vegetation management programs as part of project design measures. As such, the projects would not result in a need for fire facility expansion. Decommissioning of the projects at the end of their 25 to 30-year life would occur through implementation of a required Reclamation Plan. These activities would not be anticipated to result in an increased need for fire protection services.

Imperial County requires payment of impact fees for new development projects. Fire Impact Fees are imposed pursuant to Ordinance 1418 §2 (2006), which was drafted in accordance with the County's TischlerBise Impact Fee Study. The ordinance has provisions for non-residential industrial projects based on square footage. The project applicant will be required to pay the fire protection services' impact fees. These fees would be included in the Conditions of Approval for the CUPs. No new fire stations or facilities would be required to serve the projects. Impacts would therefore be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.12-2

Increased Demand on the Imperial County Sheriff Department.

Implementation of the projects would not result in the need for additional police protection services during construction and operational activities.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects would result in a minor increase in demand for law enforcement protection services over existing levels. Emergency response times can vary due to the large patrol area of the County. Depending on the location of the deputy, response times can range from approximately five minutes to one hour; however, emergency calls involving public safety would take priority.

The projects do not include a residential component; therefore, it would not result in a substantial addition of residents to the Sheriff Department's service area. The combine projects would be staffed with up to three (3) part-time employees (for each site) to maintain the facilities as needed during normal daylight hours. The perimeter of the project facilities would be secured with low voltage security fencing (i.e., for security cameras and sensors), with barbed wire, and no less than six feet high along each public road. Access to each of the site locations would be provided using a 20-foot minimum swinging or sliding gate. Additionally, controlled access gates would be maintained at entrances into the each of the project site locations. Emergency response personnel would be provided with manual override capability in order to access the site facilities. A remotely monitored security system will be installed to discourage and record any incidents of vandalism or trespassing. With these features installed on-site, the security on the solar facilities would be adequate and would not require the addition of staff to the Sheriff's Department. As such, the projects would not result in a need for police facility expansion. Decommissioning of the projects at the end of their 25 to 30-year life would occur through implementation of a required

Reclamation Plan. These activities would not be anticipated to result in an increased need for police services.

Imperial County requires payment of impact fees for new development projects. Police services Impact Fees are imposed pursuant to Ordinance 1418 §2 (2006), which was drafted in accordance with the County's TischlerBise Impact Fee Study. The ordinance has provisions for non-residential industrial projects based on square footage. The project applicant will be required to pay the police protection services' impact fees. These fees would be included in the Conditions of Approval for the CUPs. Impacts would therefore be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

4.12.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

Decommissioning and restoration of the project sites at the end of their 25 to 30-year life would occur and would not result in an increased need for fire and police protection services. These activities would be in the form of disassembling project components, and then restoring the sites to agricultural uses, both of which would not create an increase in demand for police or fire service beyond the level required for the proposed solar operations. Therefore, **no impact** is identified and no mitigation is required for this phase.

Residual

With payment of the development impact fees for fire and police protection services, project impacts would be **less than significant**. No mitigation is required, and no residual significant and unmitigated impacts would result.

4.12-5

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4.13 TRANSPORTATION/TRAFFIC

This section addresses the projects' impacts on traffic and the surrounding roadway network associated with construction and operation of the projects. The following discussion describes the existing environmental setting in the surrounding area, the existing federal, state, and local regulations regarding traffic, and an analysis of the potential impacts of the proposed projects. The *Traffic Assessment for:* Project No. 1 SEPV Dixieland East 2MW Solar Photovoltaic Electricity Generating Facility, Project No. 2 – SEPV Dixieland West 3MW Solar Photovoltaic Electricity Generating Facility (April 2015), completed by George Dunn Engineering, was used for this assessment and is included in Appendix K.

4.13.1 Environmental Setting

The project area is located within the County of Imperial on privately owned, undeveloped agricultural land collectively encompassing 53 acres approximately 10 miles west of El Centro, California.

4.13.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

State

California Department of Transportation

The California Department of Transportation (Caltrans) manages more than 50,000 miles of California's highway and freeway lanes, provides inter-city rail services, permits more than 400 public-use airports and special-use hospital heliports, and works with local agencies. Specifically, Caltrans is responsible for the design, construction, maintenance, and operation of the California State Highway System. Within the project area, Caltrans is responsible for maintaining and managing Interstate 8 (I-8). Specific thresholds for assessing project-related impacts on State highways are further discussed in Section 4.3.2.1.2 of this Chapter.

Regional Plans

2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Towards a Sustainable Future

On April 4, 2012, the Southern California Association of Governments (SCAG) adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future. The RTP emphasizes the importance of system management, goods movement, and innovative transportation financing and identifies a regional investment framework to address the region's transportation and related challenges. The RTP also looks to strategies that preserve and enhance the existing transportation system and integrate land use into transportation planning.

SCAG is committed to integrated transportation and land use by creating a SCS as part of the RTP. The SCS integrates transportation, land use, housing, and environmental planning with the goal of reducing regional greenhouse gas (GHG) emissions, specifically to address Senate Bill (SB) 375. The RTP/SCS is a long-range regional transportation plan that provides a blueprint to coordinate the regional transportation system by creating a vision for transportation investment throughout the region and identifying regional transportation and land use strategies to address mobility needs. Consistency with the RTP/SCS is addressed in Section 4.10, Land Use and Planning.

Local

County of Imperial Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element identifies the location and extent of transportation routes and facilities. It is intended to meet the transportation needs of local residents and businesses, and as a source for regional coordination. The inclusion of Scenic Highways provides a means of protecting and enhancing scenic resources within highway corridors in Imperial County. The purpose of the Circulation and Scenic Highways Element is to provide a comprehensive document which contains the latest knowledge about the transportation needs of the County and the various modes available to meet these needs. Additionally, the purpose of this Element is to provide a means of protecting and enhancing scenic resources within both rural and urban scenic highway corridors.

Coordination across jurisdictional standards for road classification and design standards was identified as a crucial component to the 2008 update of the Circulation and Scenic Highways Element. The intent of this element is to provide a system of roads and streets that operate at a level of service "C" (LOS C) or better (Imperial County Planning and Development 2008).

Level of Service (LOS) is a professional industry standard by which the operating conditions of a given roadway segment or intersection are measured. LOS ranges from A through F, where LOS A represents the best operating conditions and LOS F represents the worst operating conditions. LOS A facilities are characterized as having free flowing traffic conditions with no restrictions on maneuvering or operating speeds; traffic volumes are low and travel speeds are high. LOS F facilities are characterized as having forced flow with many stoppages and low operating needs. Additionally, with the growth of Imperial County, transportation management and systems management will be necessary to preserve and increase roadway "capacity." LOS standards are used to assess the performance of a street or highway system and the capacity of a roadway.

County of Imperial Bicycle Master Plan Update: Final Plan

In 2012, the County of Imperial adopted an updated Bicycle Master Plan to serve as the guiding document for the development of an integrated network of bicycle facilities and supporting programs designed to link the unincorporated areas and attractive land uses throughout the County. This document is an update to the previously adopted Countywide Bicycle Master Plan; and was prepared to accomplish the following goals:

- 1. To promote bicycling as a viable travel choice for users of all abilities in the County,
- 2. To provide a safe and comprehensive regional connected bikeway network,
- 3. To enhance environmental quality, public health, recreation and mobility benefits for the County through increased bicycling

The County of Imperial's General Plan, Circulation Element and Open Space Element, provide a solid planning basis for the Bicycle Master Plan. In spite of the fact that there are a limited number of bicycle facilities in Imperial County and no comprehensive bicycle system, there is a growing interest in cycling and numerous cyclists bike on a regular basis for both recreation and commuting to work and school.

4.13.1.2 Existing Conditions

This section presents the significance criteria used for considering project-related impacts, the methodology employed for the evaluation, and mitigation requirements, if necessary.

Existing Circulation Network

The following roadway classifications are derived from the County of Imperial General Plan Circulation and Scenic Highways Element:

Expressway. The main function of this classification is to provide regional and intra-county travel services. Features include high design standards with six travel lanes; wide landscaped medians; highly restricted access; provisions for public transit lands, including but not limited to, bus lanes, train lanes, or other mass transit type means; and no parking. Minimum right-of-way (ROW) is 210 feet consisting of three travel lanes per direction, a 56-foot median, and shoulders along both sides of the travel way. The ROW width is exclusive of necessary adjacent easements such as for the Imperial Irrigation District (IID) facilities as these vary. The minimum intersection spacing is one (1) mile. (Note: ROWs may be greater if the road segment also serves as a corridor for public utilities).

Prime Arterial. The main function of this classification is to provide regional, sub regional, and intracounty travel services. Features include high design standards with four to six travel lanes, raised and landscaped medians, highly restricted access, which in most cases will be a one (1) mile minimum, provisions for public transit lanes, including but not limited to bus lanes, train lanes, or other mass transit type means and no parking. The absolute minimum ROW without public transit lanes is 136 feet. ROW dimensions are specified in the standards for specific road segments. Please refer to the appropriate standards section (ROWs may be greater if the road segment also serves as a corridor for public utilities).

Minor Arterial. These roadways provide intra-county and sub regional service. Access and parking may be allowed, but closely restricted in such a manner as to ensure proper function of this roadway. Typical standards include the provision for four and six travel lanes with raised landscaped medians for added safety and efficiency by providing protected left turn lanes at selected locations. Some may also contain provisions for public transit lanes or other mass transit type means. Minimum ROW is 102 feet for four lanes and 126 feet for six lanes.

Major Collector (Collector). These roadways are designed to provide intra-county travel as a link between the long haul facilities and the collector/local facilities. Although it frequently provides direct access to abutting properties, that is not its primary purpose. Typical design features include provision for four travel lanes without a raised median and some may also contain provisions for public transit lanes or other mass transit type means. Minimum ROW is 84 feet. Parking is generally not permitted.

Minor Local Collector (Local Collector). This is designed to connect local streets with adjacent Collectors or the arterial street system. Design standards include provision for two travel lanes and parking, except in specific locations where parking is removed to provide a turn lane at intersections. Local Collector streets frequently provide direct access to abutting properties, although that should be avoided where feasible. Minimum ROW is 70 feet.

Residential Street. This street type includes residential cul-de-sac and loop streets and is designed to provide direct access to abutting properties and to give access from neighborhoods to the Local Street and Collector Street system. This classification should be discontinuous in alignment, such that through trips are discouraged. Typical design standards include provision for two travel lanes, parking on both sides, and direct driveway access. Minimum ROW is 60 feet.

Following is a brief description of the street segments within the vicinity of the project sites.

Evan Hewes Highway (County Route S-80) is designated as a Prime Arterial in the Imperial County General Plan Circulation Element and Scenic Highway from Imperial Highway to El Centro. Within the project area, Evan Hewes Highway is constructed as a two-lane undivided east-west corridor, providing one lane of travel per direction. Based on Imperial County guidelines, this roadway has a LOS C capacity of 7,100 vehicles per day. 2010 average daily trips (ADT) for the highway were taken from the *Final EIR/EA for the proposed Imperial Solar Energy Center West project, July 2011.* The 2010 traffic volume for Evan Hewes Highway was 865 ADT. No bike lanes or bus stops are provided, and parking is not permitted along either side of the road. The posted speed limit is 65 mph. Interstate 8 (I-8) runs parallel south of Evan Hewes Highway.

Dunaway Road is designated as a Major Collector in the Imperial County Circulation and Scenic Highway Element Plant. It is a two—lane undivided roadway that serves as the nearest I-8 Freeway

Interchange to the project area. Based on Imperial County guidelines, this roadway has LOS C capacity of 7.100 vehicles per day. The 2010 traffic volume for Dunaway Road Evan was estimated at 751 ADT. No bike lanes or bus stops are provided, and parking is not permitted along either side of the road. The posted speed limit is 55 mph.

I-8 Freeway provides a primary east-west connection through Imperial County. It is a four-lane divided interstate highway, providing two lanes of travel per direction. A four-lane highway has a LOS C capacity of about 60,000 vehicles per day. 2010 traffic volumes for the freeway ranged from 12,300 to 14,200 ADT between Dunaway Road and Forrester Road.

Alternative/Public Transportation

Fixed Route Transportation

Imperial Valley Transit (IVT) is an inter-city fixed route bus system, subsidized by the Imperial Valley Association of Governments (IVAG), administered by the County Department of Public Works and operated by a public transit bus service. The service is wheelchair accessible and Americans with Disabilities Act (ADA) compliant. Existing ridership averages approximately 23,000 passengers a month.

Service is provided from 6:00 a.m. until 11:00 p.m. weekdays, and 6:00 a.m. to 6:00 p.m. on Saturdays, within the areas classified as the Primary Zone; a north-south axis throughout Brawley, Imperial Valley College (IVC), Imperial, El Centro, Heber and Calexico, and from 6:00am until 6:45pm in the Secondary Zones; outlying cities and communities of Niland, Calipatria, Westmorland, Seeley, and Holtville. The outlying Remote Zone community of Ocotillo is served once a week on Thursdays, by request one day ahead. Remote Zone communities east and west of the Salton Sea, including Desert Shores, Salton City, Salton Sea Beach, and the far eastern portion of the County, including Winterhaven, are served once a week, via Lifeline. The project sites are not within the Fixed Route Transportation system and therefore, would not receive regular bus service to the project sites or within the vicinity of the project sites.

Bicycle Facilities

The Highway Design Manual classifies bikeways into three types:

- Class I Bike Path Provides for bicycle travel on a right-of-way completely separated from the street
- Class II Bike Lane Provides a striped lane for one-way travel within the street
- Class III Bike Routes Provides routes that are signed but not striped

Although none of the roadway segments within proximity of the project sites are designated a bikeway classification, the County of Imperial Bicycle Master Plan Update lays out a framework for creating and expanding programs and improvements designed to increase bicycling activity in the County of Imperial. One Class II bicycle lane is proposed to traverse adjacent to the project area along Evan Hewes Highway.

Class II Bicycle Lane – Evan Hewes Highway. An 18.8 mile Class II bike lane beginning at Drew Road, where a Class II Bike Lane already exists, and ending at Imperial Highway is recommended as a future extension of bicycle infrastructure by the Imperial County Bicycle Master Plan. At Drew Road the bicycle lane would proceed west towards Huff Road, and continue into Ocotillo, splitting north and south at the Imperial Highway intersection.

Daily Street segment Levels of Service

As previously described, the project sites are located in rural settings with many of these being compacted dirt roads with no congestion. As prescribed in the Circulation and Scenic Highway Element,

the intent of the County is to provide a system of roads and streets that operate at a LOS C or better (Imperial County Planning and Development, 2008).

4.13.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to transportation and traffic, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.13.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to transportation and traffic are considered significant if any of the following occur:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.13.2.1.1 County of Imperial

The County of Imperial does not have published significance criteria. However, the County General Plan does state that the LOS goal for intersections and roadway segments is to operate at LOS C or better. Therefore, if an intersection or segment degrades from LOS C or better to LOS D or worse with the addition of project traffic, the impact is considered significant. If the location operates at LOS D or worse with and without project traffic, the impact is considered significant if the project causes the intersection delta to increase by more than two (2) seconds, or the volume to capacity (V/C) ratio to increase by more than 0.02. V/C ratios provide a quantitative description of traffic conditions for signalized intersections. These amounts are consistent with those used in the County of Imperial in numerous traffic studies.

4.13.2.1.2 Caltrans

A project is considered to have a significant impact on Caltrans facilities if the new project traffic has decreased the operations of surrounding roadways by a defined threshold. If the project exceeds the thresholds addressed in the table below, then the project may be considered to have a significant project impact. A feasible mitigation measure will need to be identified to return the impact within the thresholds (pre-project + allowable increase) or the impact will be considered significant and unmitigated when affecting any state highway facilities (Caltrans 2002). Within the project area, Caltrans is responsible for maintain and managing Interstate 8 (I-8), which is located approximately 1.3 miles south.

4.13.2.2 Methodology

Dixieland East Solar Farm and Dixieland West Solar Farm

The assessment evaluates the potential for the projects, as described in Chapter 3, Project Description, to assess the project trip generation created during and after construction. Quantitative analysis for the projects shows negligible trip generation upon completion of the construction phase of the projects. The projects will generate the most traffic during construction.

As indicated previously, a Traffic Assessment was prepared by George Dunn Engineering. The information obtained from the *Traffic Assessment for: Project No. 1 SEPV Dixieland East 2MW Solar Photovoltaic Electricity Generating Facility, Project No. 2 – SEPV Dixieland West 3MW Solar Photovoltaic Electricity Generating Facility* (April 2015) was reviewed and summarized to identify potential environmental impacts to existing conditions. Since these projects are in close to proximity to one another and overall construction schedules, the traffic assessment for both projects will be combined. Impacts associated with transportation/circulation that could result from project construction and operational activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities. It is estimated that the maximum number of employees working on the two solar projects at one time will be 40 employees during peak construction. Conceptual site plans for the projects were also used to evaluate potential impacts. These conceptual exhibits are provided in Figures 3-5 and 3-7.

Project Trip Generation

With both DESF and DWSF under concurrent construction, as previously stated it is estimated that the maximum number of employees working both sites at one time will be 40 employees during peak construction. Construction is expected to commence mid 2016, with opening year planned for early 2017. Traffic assessments for both projects were combined due to proximity and overlap of construction schedules. To assess the construction year impacts to the projects, information was used from the *Final EIR/EA for the proposed Imperial Solar Energy Center West* project, July 2011. The project construction is ongoing and will be completed in 2016. 2015 traffic volumes were developed using 2010 traffic volumes and increasing for five years by a growth rate of 2.8 percent per year. The major roadways assessed were Evan Hewes Highway, Dunaway Road, and I-8. 2015 ADT estimates concluded that traffic for both Evan Hewes Highway and Dunaway Road were less than 1000 vehicles per day (VPD) and less than 3.100 VPD for I-8.

Since no specific land used in the ITE Trip Generation Manual, trip generation for the construction and operational phases of the project were developed by assessing: construction phasing and duration, construction workforce estimates, construction truck trip estimates, peak hour trip generation forecast, employee trips, truck trips and additional work related trips. These construction and operational phases of the project were developed as outlined below:

Construction Phasing and Duration. Project construction is anticipated to start mid-2016 for the proposed projects. For DESF, the entire process is estimated to take up to 22 weeks. For DWSF, the process will take up to 26 weeks. The projects will be constructed on a serial basis, meaning the time from construction start to finish will be 36 weeks. These peak construction times are not anticipated to occur at the same time.

Construction Workforce Estimates. The projects will be construction on a serial basis, meaning the time from construction start to finish will be 36 weeks. The SEPV Dixieland East Project will take 22 weeks to construct and the SEPV Dixieland West Project will take 26 weeks to complete. Peak construction times for each individual project will not occur at the same time.

The maximum number of employees working on the two solar projects at one time will be 40 employees. For purposes of the trip generation calculations, it is assumed that 28 employees will drive alone and 12 employees will arrive in two-person carpools.

Construction Truck Trip Estimates. DESF will require 120 truck trips over the course of the project with a maximum of 8 trucks per day. DWSF will require 180 truck trips over the course of the project, with a maximum of 12 trucks per day. The total number of truck over the 36-week construction overlap will be 300. As a works case scenario, the maximum daily truck trips generated by construction will be 20, assuming each project generated its maximum number of truck trips on a specific day; however this is not expected to occur.

The truck trip calculations below account for the heavier vehicles types such as trucks by converting truck trips to "passenger car equivalents". A rate of 2.2 passenger car equivalents (PCEs) per truck trip was used in this analysis. This conversation rate falls within the guidelines set for in the Highway Capacity Manual.

Construction of the project will require the periodic use and installation of heavy equipment and associated systems at various times within each construction phase. Heavy equipment will not be hauled to/from the project sites daily; it will be hauled in at the beginning of construction and hauled out upon completion of construction.

Peak Hour Trip Generation Forecast. For purposes of forecasting future peak hour trip generation, it is assumed that the majority of the daily project trips will occur during daylight hours.

It is assumed that each employee arrives prior to the start of the work shift and departs just after the work shift. It is also assumed that truck trips will occur randomly during daylight hours, Monday through Saturday. Based on these assumptions, daily and peak hour trip generation calculations are provided below.

Employee Trips. It is estimated that the maximum number of employees working on the SEPV Dixieland East and West projects at one time will be 40 employees.

28 employees will drive alone and 12 employees will carpool (2 to vehicle) = 34 inbound trips in the AM and 34 outbound trips in the PM

Due to the remote project location, employees would be expected to stay on-site during the lunch period.

Total trips = 34 * 2 = 68 daily employee trips

Truck Trips. The maximum number of daily truck trips generated by construction will be 20, assuming each project generated its maximum number of truck trips on a specific day. These trips will likely occur randomly during the work day.

- 20 daily two-way truck trips = 40 one-way truck trips at a PCE of 2.2 = 88 PCE one-way truck trips per day.
- 88 PCE truck trips / 8-hour days = 11 PCE one-way truck trips during the AM peak hour and 11 PCE one-way truck trips during the PM peak hour.

Additional Work Related Trips. It is assumed that other trips associated with the activities of supervisors, inspectors and vendors would be equal to 20% of the employee trips and would occur randomly over the work day.

68 daily employee trips x 0.20 = 14 ancillary trips (PCEs) daily trips

Table 4.13-1 shows the forecast traffic generation expected from the project based on the information provided by the project proponent.

TABLE 4.13-1- PROJECT TRAFFIC GENERATION

		AM Peak Hour			PM Peak Hour		
Land Use	Daily	Total	ln	Out	Total	ln	Out
Employee Trips*	68	34	34	0	34	0	34
Truck Trips (PCEs)	88	11	6	5	11	5	6
Ancillary Trips	14	2	1	1	2	1	1
NET Project Trips (PCEs)	148	47	41	6	47	6	41

During the peak of projects construction, the projects will generate a total of 148 project trips daily (PCEs), including 47 trips (PCEs) during the traditional AM peak hours and 47 trips (PCEs) during the traditional PM peak hours on the adjacent roadways.

4.13.2.3 Impact Analysis

IMPACT 4.13-1

Possible Conflict with Applicable Plan, Ordinance, or Policy.

The development of the project sites with the proposed projects would not cause a substantial increase in traffic affecting the efficiency of the circulation system; this includes all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, such as highways and freeways, pedestrian and bicycle paths, and mass transit.

Dixieland East Solar Farm and Dixieland West Solar Farm

Currently, there is no regular bus service to the general area and project related construction and operations and maintenance phases would not impact mass transit. During the construction phase of the projects, less than 100 peak hour trips (PCEs) and 148 daily trips (PCEs) are forecasted; therefore circulation specifically on Evan Hewes Highway may be minimally affected. However, the impacts would not increase traffic substantially and would only occur upon duration of construction. Future operations and maintenance of the projects could potentially impact proposed Class II Bike Lanes designated routes along Evan Hewes Highway. The projects, however, do not propose modifications be made to existing roadways serving future designated bikeway routes. Instead, the perimeter of the projects will be fenced-in along the project boundaries and would not interfere with potential future designated bike routes. Therefore, the DESF and DWSF projects would not impact potential future designated bike routes traversing through the project area and impacts to this issue area are identified as **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.13-2

Possible Conflict with Applicable Congestion Management Program.

The construction and/or operation of the proposed projects within the project area would not exceed a level of service standard established by the County Congestion Management Agency for designated roads or highways.

Imperial County currently does not have a Congestion Management Agency (CMA) or an applicable Congestion Management Program (CMP). Therefore, traffic impact assessment criteria and information provided by the project proponent were used to conduct quantitative analysis to forecast traffic generation from the proposed projects. Additionally, information regarding current traffic volumes was taken from the Final EIR/EA for the proposed Imperial Solar Energy Center West project, July 2011. Imperial Solar energy Center is located approximately 1.5 miles southwest of the project area.

Dixieland East Solar Farm and Dixieland West Solar Farm

Since the ADTs on Evan Hewes Highway and Dunaway Road are considerably low, there remains the possibility that one of these two roadway segments could see an increase in daily trips by more than 8 percent, depending on the distribution of trip paths to and from the project area, scheduling, and staffing. As discussed in 4.13-1, during construction the project will generate less than 100 peak hour trips (PCEs) and 148 daily trips (PCEs); however this is considered worst case scenario. Therefore, the proposed project's impact would not degrade existing LOS since both roadways are lightly used and traffic volumes, even during construction of DESF and DWSF, would be well below the capacities of the roadways. Additionally, during operation, each facility will employ up to three individuals on a part-time basis to provide maintenance, repair, and other services required to ensure the facility continues generating energy over its lifetime. These workers will not be on-site on a daily basis, but only as-needed for panel washing and maintenance and repair activities. No capacity-related traffic impacts are anticipated as a result of this project. Therefore, the DESF and DWSF projects will not exceed the County's intent of providing a system of roads and streets which operate at a LOS C or better, during construction and/or operation. A **less than significant** impact is identified and no mitigation is required.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.13-3

Possible Modification in Air Traffic Patterns or Traffic Levels.

Development of the proposed projects within the project area would not result in changes to air traffic patterns or roadway traffic resulting in safety issues.

Dixieland East Solar Farm and Dixieland West Solar Farm

At their highest point of solar tracking during the day, the solar panels will be less than nine feet above the ground surface. Therefore they would not be at a height that would interfere with air traffic patterns. For the DWSF site, the PV panels would be arranged in continuous rows of up to approximately 466 feet in length, with 14 feet between each row (per fire department requirements). The arrangement for the PV panels on the DESF site varies due to the site's irregular shape. The continuous rows of panels are approximately 197 feet to 253 feet in length with 14 feet between each row. To accommodate emergency access, PV panels would be spaced to maintain proper clearance. An additional 20-foot-wide, all weather access road would be integrated into the project design and located within each solar array grid to facilitate access to the inverter modules and transformers. These access roads would consist of an unpaved roadway surface within an aggregate base and capable of facilitating emergency vehicle access. Additionally, a 20-foot-wide all weather gravel road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. These access roads would not increase hazards due to design features or incompatible uses. Therefore, a less than significant impact is identified for this issue area.

The proposed project would require relinquishments of several easements:

- Abandonment of the public service easement alley intermediate between the two existing parcels (APNs 051-035-001 and 051-035-002) on the west side of Brown Road.
- Abandonment of the northern 20 feet of Potrero Avenue from the east line of Brown Road to the west line of Canal Street.
- Abandonment of the northern 20 feet of Cocupa Avenue from the east line of Broadway Avenue to the west line of Brown Road.
- Abandonment of the eastern 40 feet of Broadway Avenue from the south line of Del Norte Avenue to the north line of Cocupa Avenue.

These roads are compacted dirt roadways that do not generate high volumes of traffic. A lot merger would also be required to merge the boundaries of the small internal lots and the land created through the approval of the road abandonment process. Requisition of these easements will not generate increased volumes of traffic. Therefore, a **less than significant** impact is identified for this issue area.

The project area is not located within an Airport Compatibility Land Use Plan (ALUCP) or within a "sphere of influence" for the Naval Air Facility El Centro.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT

Possible Safety Hazard from Design Features.

4.13-4

Design features related to the project sites would not result in hazards or incompatible land uses.

Dixieland East Solar Farm and Dixieland West Solar Farm

As discussed under impact 4.13-3, the project does include the relinquishment of several easements; however, these easements are compacted dirt roadways that do not generate high volumes of traffic. A 20-foot wide access road with an additional 20 foot wide all weather access road would be implemented into the project design and located within each solar array grid to facilitate access to the inverter modules and transformers. Additionally, a 20-foot wide all weather gravel road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles.

As a condition of approval for the projects, the project applicant will be required to conduct a preconstruction roadway condition survey to document existing roadway conditions prior to the commencement of construction activities and prepare a report to determine the minimum road design criteria to support anticipated project traffic, and whether existing roadways comply. These access roads would not increase hazards due to design features or incompatible uses and a **less than significant** impact is identified.

An encroachment permit from Imperial County Public Works for the proposed primary and secondary driveways to the projects off Brown Road will be submitted. The route of transmission facilities may traverse County of Imperial owned land to allow a proposed Generation-Tie line to cross Brown Road; therefore submittal of an encroachment permit is required. With the issuance of the required Public Works encroachment permit, the transmission facilities would have **less than significant** impacts related to safety hazards.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT

Possible Safety Hazard from Inadequate Emergency Access.

4.13-5

Development of the project sites with the proposed projects would not result in inadequate emergency access.

Dixieland East Solar Farm and Dixieland West Solar Farm

20-foot wide access roads will be implemented into the project design for each project. These roads would be located within each solar array grid to facilitate access to the inverter modules and transformers. These access roads would consist of an unpaved roadway surface within an aggregate base and capable of facilitating emergency vehicle access. Additionally, a 20-foot-wide all weather gravel road would be constructed along the perimeter fence and solar panels to facilitate vehicle access and maneuverability for emergency unit vehicles. Therefore, a **less than significant impact** is identified for this issue area.



Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.13-6

Possible Conflict with Adopted Policies, Plans or Programs.

Development of the project sites with the proposed projects would not result in a decrease in performance or safety of adopted policies, plans programs for public transit, bicycle, or pedestrian facilities.

Dixieland East Solar Farm and Dixieland West Solar Farm

As stated previously, there currently is no regular bus service or bicycle infrastructure in the general area and project related construction and operations and maintenance phases would not impact alternative modes of transportation. According to the Imperial County Bicycle Master Plan, a future Class II bicycle lane is proposed along Evan Hewes Highway. Post construction, each facility will employ up to three (3) individuals on a part-time basis to provide maintenance, repair, and other services required to ensure the facility continues generating energy over its lifetime. These workers will not be on site on a daily basis, but only as-needed for panel washing and maintenance and repair activities. Future operations and maintenance of the project area could potentially impact the proposed bikeway. As discussed in impact 4.13-3, abandonment of portions of Cocupa, Potrero, and Broadway will be required in order to facilitate a lot merger of the small internal lots. However the project does not propose modifications to be made to existing roadways serving future designated bikeway routes.

As a condition of approval, the project applicant is required to enter into a Roadway Maintenance Agreement with the County of Imperial prior to the issuance of a grading permit. The applicant is responsible for maintaining proposed haul routes during construction and bringing roadways up to an appropriate minimum standard to handle anticipated project traffic. At a minimum roadway preparation is required for Brown Road.

The perimeter of each of the projects will be fenced-in along the project boundaries and would not interfere with potential future designated bike routes. The fence lines and project components will be setback from Evan Hewes Highway. The setbacks from the Evan Hewes Highway will be at least 400 feet for DESF and 240 feet for DWSF. Therefore, the projects would not impact potential future bike routes traversing through or adjacent to the project sites. Therefore, impacts to this issue area are identified as **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

4.13.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

This section included an analysis of construction traffic for the proposed projects. As presented above, construction traffic would not result in a significant impact to any of the project area intersections. A similar scenario would occur during the decommissioning and site restoration stage for each of the projects. ADT would be similar to or less than the ADT required for construction. Similarly, the decommissioning activities would not result in a significant impact related to modification of air traffic patterns, possible safety hazards, or possible conflicts with adopted policies, plans, or programs as the decommissioning and subsequent restoration would revert the project sites to agricultural uses. Therefore, decommissioning and restoration of the project sites would not generate traffic resulting in a significant impact to the circulation network. **No impact** is identified and no mitigation is required.

Residual

The construction and operation of the proposed projects would not result in direct impacts to intersections, roadway segments, and freeway segments. Therefore, less than significant impacts have been identified. No mitigation is required and no residual unmitigated impacts would occur with implementation of the projects.

4.14 UTILITIES/SERVICE SYSTEMS

This section includes an evaluation of potential impacts for identified Utilities/Service Systems that could result from implementation of the projects. Utilities/Service Systems include wastewater treatment facilities, storm drainage facilities, water supply and treatment, solid waste disposal, and energy consumption. The impact analysis provides an evaluation of potential impacts to Utilities/Service Systems based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines in conjunction with actions proposed in Chapter 3.0, Project Description.

The Initial Study/Notice of Preparation (IS/NOP) prepared for this Environmental Impact Report (EIR) determined that impacts with regards to solid waste disposal, storm drainage, and wastewater treatment would be less than significant. Solid waste generation would be minor for the construction and operation of the project. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. There are over 40 solid waste facilities listed in Imperial County in the CalRecycle database. Trash would likely be hauled to the Imperial Solid Waste Site located approximately nine miles northeast from the project area. The facility has approximately 183,804 cubic yards of capacity remaining (reporting date May 2012). The Imperial Solid Waste Site has a maximum permitted throughput of 18 tons/day and is estimated to remain in operation until March 1, 2019 (http://www.calrecycle.ca.gov/SWFacilities/ Directory/13-AA-0001/Detail/). Therefore, there is ample landfill capacity to receive the minor amount of solid waste generated by project construction and operation. The project does not require expanded or new storm drainage facilities (other than on-site retention areas) because the proposed solar facilities would not generate a significant increase in the amount of impervious surfaces that would increase runoff during storm events. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces within the project sites would remain pervious. Additionally, the project does not propose any operation and maintenance (O&M) buildings. Therefore, solid waste disposal, wastewater treatment, and storm drain facilities will not be discussed further. The IS/NOP is included in Appendix A of this EIR.

4.14.1 Environmental Setting

Water

The Imperial Valley area is located within the south-central part of Imperial County and is bound by Mexico on the south, the Algodones Sand Hills on the east, the Salton Sea on the north and San Diego County on the northwest, and the alluvial fans bordering the Coyote Mountains and the Yuha Desert to the southwest. This valley is an irrigated agricultural area. Approximately one-fifth of the nearly three million acres in Imperial County is irrigated for agricultural purposes, of which the majority are located within the Imperial Valley. The Imperial Valley area encompasses a total of 989,450 acres, of which 512,163 acres are irrigated. Imperial County's incorporated cities, unincorporated communities and supporting facilities, comprises approximately one percent of Imperial County's area, and the Salton Sea accounts for approximately seven percent of Imperial County's surface area.

The source of nearly all surface waters in Imperial County is the Colorado River. The water is diverted from the Colorado River at the Palo Verde Weir north of Blythe by the Palo Verde Irrigation District for use in the Palo Verde Valley of northeast Imperial County and southeast Riverside County; and at the Imperial Dam into the All-American Canal by the Imperial Irrigation District (IID) and the Bard Irrigation District for use in the Imperial, Yuma, Bard, and Coachella Valleys. The 82-mile All-American Canal has several main canals that branch off the East Highline, Central Main and Westside Main canals (IID n.d. (a)). These three canals supply water service to Imperial Valley and are operated and maintained by IID (IID, n.d.(a)). The IID serves irrigation water and electric power to farmers and residents in the lower southeastern portion of California's desert.

Approximately 97 percent of IID's water is used for agricultural purposes. The remaining three percent of its water deliveries supply seven municipalities, one private water company, two community water systems, as well as a variety of industrial uses and rural homes or businesses (IID n.d.(b)).

4.14-1

The IID has a specific area that it is responsible for supplying water to, which is referred to as the Imperial Unit. In addition to agricultural irrigation, the Imperial Unit includes the seven incorporated cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland. The three unincorporated communities in the Imperial Unit are Heber, Niland and Seeley.

Energy

The IID supplies electricity to Imperial County. IID's 2014 Integrated Resource Plan (IRP) addresses the current challenges to meet retail load requirements, adapt to new renewable energy portfolio standards and reduce greenhouse gas emissions. The IRP includes implementation of energy programs necessary to reduce current energy load by at least five percent by 2015, with a 10 percent reduction goal set for 2020 (IID 2014). In addition, the Plan calls for generating 25 percent of annual energy requirements for its service area from renewable sources by 2016, and at least 33 percent by 2020; and continuing to reduce greenhouse gas emissions to 1990 levels by 2020 (IID 2014). The IID is also implementing an energy efficiency program with the goal of reducing load demand by at least five percent by 2015 with a 10 percent load reduction goal by 2020 (IID 2014).

4.14.1.1 Regulatory Setting

This section identifies and summarizes federal, state, and local laws, policies, and regulations that are applicable to the projects.

State

California Senate Bill 610

California Senate Bill (SB) 610 is an act that amended Section 21151.9 of the Public Resources Code (PRC), and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the Water Code. SB 610 repealed Section 10913, and added and repealed Section 10657 of the Water Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.

Under SB 610, water supply assessments must be furnished to local governments for inclusion in environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. California enacted SB 267, amending the California Water Code's Section 10912 definition of a "project" that would trigger a Water Supply Assessment (WSA). The amended definition excludes low-water demand photovoltaic projects. Specifically, SB 267 states, "A proposed photovoltaic or wind energy generation facility approved on or after the effective date of the amendments made to this section at the 2011-12 Regular Session is not a project if the facility would demand no more than 75 acre-feet of water annually." (California water Code §10912 (a)(5)(B)). Because the projects will not create an annual water demand greater than 75 acre-feet, collectively, a WSA is not required for the projects.

California Water Code

California Water Code (Water Code) Sections 10656 and 10657 restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources. In addition, Water Code Section 10910 describes the WSA that must be undertaken for projects referred under PRC Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a WSA to the CEQA lead agency. Water Code Section 10910 also specifies the circumstances under which a project for which a WSA was once prepared would be required to obtain another assessment. Water Code Section 10631, directs that contents of the urban water management plans include further information on future water supply projects and programs and groundwater supplies.

Urban Water Management Planning Act — Assembly Bill 797

The Urban Water Management Planning Act was established by Assembly Bill 797 (AB 797) on September 21, 1983. Passage of this law was recognition by state legislators that water is a limited

resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The law requires water suppliers in California, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY) of water, to prepare and adopt a specific plan every five years which defines their current and future water use, sources of supply and its reliability, and existing conservation measures.

4.14.1.2 Existing Conditions

Water

The proposed projects are located on privately owned, undeveloped, but partially disturbed land encompassing approximately 53 acres. Besides the brief period between 1979 and 1984 in which the DESF site was used for agricultural production, both project sites have not been historically used for agricultural purposes. Therefore the annual water usage and estimated water consumption of either site has not been recorded by IID.

An existing concrete lined irrigation ditch runs along an elevated embankment from the Westside Main Canal to the west side of the DESF site. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps no longer supply water to the ditch but feed an existing 12-inch diameter polyvinyl chloride pressurized water line that transects the DESF site (portion east of Brown Road). This line supplies water to the Imperial Lakes Water Ski Community approximately 0.5 miles west of DESF. This water line will remain in its current location and will not be impacted by the proposed projects.

Energy

The project sites are vacant. There is currently no energy demand on the project sites. The IID would provide electricity service to the project sites (i.e., during non-generating hours for the facility). IID meets its annual resource requirements through a mix of the IID-owned generation and a number of purchase power contracts that can take the form of must-take contracts and call options. The IID's generation resources range from hydroelectric resources on the All-American Canal System to San Juan Unit 3, a coal plant in New Mexico to the Palo Verdes Nuclear Generation Station near Phoenix. The IID also owns thermal generation facilities within its service territory, fueled by natural gas or diesel.

The goal of conserving energy implies the efficient use of energy. The means of achieving this goal includes: decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources.

4.14.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project impacts related to utilities/service systems, the methodology employed for the evaluation, an impact evaluation, and mitigation requirements, if necessary.

4.14.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to utilities/service systems are considered significant if any of the following occur:

Water Supply

- Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

Energy

- Result in the need for new systems or supplies, or a substantial expansion or alteration to electricity, natural gas, or telephone that results in a physical impact on the environment.
- Result in inefficient energy uses of fuel type for each stage of the project including construction, operation, maintenance, and/or removal.
- Result in negative effects on local and regional energy supplies and require additional capacity.
- Result in increased effects to peak and base period demands for electricity and other forms of energy.
- Result in noncompliance with existing energy standards.
- Result in negative effects on energy resources.

As stated previously, it was determined through the preparation of the IS/NOP that impacts with regards to solid waste disposal and policies and wastewater treatment would be less than significant. Therefore, these issue areas will not be discussed further. Impacts associated with water quality are discussed in Section 4.9, Hydrology/Water Quality of this EIR.

4.14.2.2 Methodology

Project-specific data was used to calculate the projects water consumption during construction and at build-out collectively ("operational"). This EIR incorporates by reference previously prepared environmental documentation for other solar projects in the project vicinity including the Iris Cluster Solar Project and the Mount Signal Final EIR.

4.14.2.3 Impact Analysis

Water Supply

IMPACT 4.14-1

Construction of New or Expansion of Existing Water Facilities.

The projects would utilize water supply from an on-site water systems and water supplies sourced from metered water services from nearby providers.

Dixieland East Solar Farm and Dixieland West Solar Farm

As discussed in Chapter 3.0 Project Description, no O&M buildings are proposed for either site; therefore, the projects would not require the construction or expansion of water facilities that could result in environmental impacts. 10,000 gallons of water in tanks on each project site will be provided exclusively for fire suppression purposes. The water tanks would be located near the primary entrance of each project site. The proposed water tanks would be located within the project sites and are included in the overall project footprint. Therefore, a **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-2

Increase in Water Demand.

The projects would utilize water supply from an on-site water system with water supplies sourced from metered water services from nearby providers.

Dixieland East Solar Farm and Dixieland West Solar Farm

As described in Section 3.0, Project Description, the duration of construction for DESF will take up to 22 weeks and DWSF will take up to 26 weeks. Combined the projects at peak construction may take up to 36 weeks. It is estimated that over the entire construction period for DESF and DWSF projects, approximately 10 acre-feet of water will be required for all purposes, including dust control and suppression. Additionally, the actual project site development is relatively small in scale with only 18 out of the 53 acres being developed with solar facilities. The actual amount of water that will also be brought on site will vary depending on site conditions such as wind speed, direction, and the amount and timing of rainfall. The project will obtain metered Temporary Services from the Westside Main Canal to fill water trucks on an as needed basis. The service will likely shift to metered General Industrial water Service during operation to allow for panel washing.

The facilities would be remotely operated, controlled and monitored and with no requirement for daily onsite employees. Local and remote operations and maintenance staff would be on-call to respond to any alerts generated by the monitoring systems, and would be present on the site periodically to perform maintenance. A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels. DESF would require approximately 7,000 gallons of water for each routine panel washing operation. Approximately 10,000 gallons of water would be required for DWSF for each routine panel washing operation. Replacement parts and components would be warehoused off site and deployed as needed. Most scheduled maintenance would occur during daytime hours but work may be performed at night for safety reasons.

During operations, panel washing may be conducted up to four times per year to increase the performance of the panels. Approximately 7,000 gallons of water for each routine panel washing during operation will be required for DESF, and approximately 10,000 gallons will be required for DWSF. Water may also be required during decommissioning of the projects and site restoration at the end of the project's 20-yearlife. However, it is anticipated that this water need would be less than what is required for construction and operation of the projects. A **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

Energy Consumption

IMPACT 4.14-3

Result in the Need for New Systems or Supplies, or a Substantial Expansion or Alteration to Electricity, Natural Gas, or Telephone.

The projects include the construction of a small scale renewable energy facility and would not require a substantial expansion of new utility service.

Dixieland East Solar Farm and Dixieland West Solar Farm

As currently proposed, the projects have a 20-year Power Purchase Agreement (PPA) with the IID awarded through its Feed-in Tariff (FIT) program. Through the tariff, IID will purchase all generation from the facility and all Renewable-Energy Credits (REC) will belong to IID. The projects will help California

4.14-5

meet its Renewable Portfolio Standard of 33 percent of retail electricity sales from renewable sources by the end of 2020.

The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects would generate and transmit renewable energy resources and is considered a beneficial effect rather than an impact. The use of energy associated with the projects includes both construction and operational activities. Construction activities typically include site grading and clearing. The projects will utilize existing transmission infrastructure owned by IID. Therefore, no new transmission lines are being proposed.

The projects would not use natural gas during the construction or operation of the projects. The facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Because no O&M buildings are being proposed, the proposed project would not result in the need for additional natural gas or telephone facilities. Therefore, a **less than significant** impact is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Result in Inefficient Energy Uses of Fuel Type.

4.14-4

The projects will require the consumption of fossil fuels during construction activities.

Dixieland East Solar Farm and Dixieland West Solar Farm

Construction-Related Energy Consumption

Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. The main pieces of equipment that may be used at any one time during construction may include:

- Vibratory post driver
- Crawler tractors/dozer
- Dump, concrete, and tender truck
- Forklift/aerial lift/boom
- Generator/compressor
- Grader/scraper
- Roller/compactor
- Tractor/loader/backhoe
- Vibratory plate (handheld)
- Flatbed truck
- Water truck

The projects will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the Imperial County Air Pollution Control District. CEQA Air Quality Handbook as discussed in Section 4.3, Air Quality of this EIR. The use of better engine technology, in conjunction with the ICAPCD's standard mitigation measures will reduce the amount of energy used for the projects. The standard mitigation measures for construction combustion equipment include:

- Using alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum.
- Limiting the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
- Replacing fossil fueled equipment with electrically driven equivalents (provided they are not run on a portable generator set).
- Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- Construction equipment used for the projects should utilize EPA Tier 2 or better engine technology.
- Keeping vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

Consistent with the intent of AB 32, the projects would demonstrate that there are policies in place that would assist in providing statewide reduction in CO_{2.} The following greenhouse gas offset measures have been shown to be effective by CARB and would be implemented wherever possible.

Diesel Equipment (Compression Ignition) Offset Strategies (40% to 60% Reduction)

- 1. Use electricity from power poles rather than temporary diesel power generators.
- 2. Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- 3. Construction equipment used for the projects should utilize EPA Tier 2 or better engine technology.

Vehicular Trip (Spark Ignition) Offset Strategies (30% to 70% Reduction)

- 4. Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e. post transit schedules/routes).
- 5. Help construction employees rideshare by posting commuter ride sign-up sheets, employee home zip code map, etc.
- 6. When possible, arrange for a single construction vendor who makes deliveries for several items.
- 7. Plan construction delivery routes to eliminate unnecessary trips.
- 8. Keep construction vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

Implementation of ICAPCD's standard mitigation measures and the greenhouse gas offset measures listed above will ensure that the projects' energy consumption during construction is **less than significant**.

Operational-Related Energy Consumption

The U.S. Energy Information Administration reports the net energy generation for the state from all sources is approximately 199,518,567 megawatt-hours (MW-h). The electricity generation process associated with the projects would use solar PV technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects would

generate renewable energy resources and is considered a beneficial effect rather than an impact. Therefore, a less than significant impact is identified for the operational-related energy consumption.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Result in Negative Effects on Local and Regional Energy Supplies Requiring Additional 4.14-5 Capacity.

The projects are the construction of a small scale renewable energy facility and would therefore provide additional capacity to the regional supply.

Dixieland East Solar Farm and Dixieland West Solar Farm

As discussed in Section 3.0, Project Description, the projects have a 20-year PPA with IID through its Feed-in Tariff (FIT) program. Through the tariff, IID will purchase all generation from the facility and all Renewable-Energy Credits (REC) will belong to IID. The projects will help California meet its RPS of 33 percent of retail electricity sales from renewable sources by the end of 2020. Please see discussion under Impact 4.14-1. The projects would not result in negative effects on local and regional energy supplies requiring additional capacity. Therefore, a **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT Result in Increased Effects to Peak and Base Period Demands for Electricity and Other 4.14-6 Forms of Energy.

The projects would not result in increased effects to peak and base period demands for electricity and other forms of energy.

Dixieland East Solar Farm and Dixieland West Solar Farm

The expected energy usage during generating and non generating hours for the proposed projects will be minimal as no O&M buildings are being proposed. Furthermore, the electricity generation process associated with the projects would use solar PV technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects would generate renewable energy resources and therefore, this is considered a beneficial effect rather than an impact. The transmission lines would not have operational energy consumption.

Additionally, implementation of ICAPCD's standard mitigation measures and the greenhouse gas offset measures listed above will ensure that the projects energy consumption during construction is **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-7

Result in Noncompliance with Existing Energy Standards.

The projects would assist IID in meeting California's mandate to procure 33 percent of its power from renewable resources.

Dixieland East Solar Farm and Dixieland West Solar Farm

The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar PV (or CPV) technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public utilities Code and the definition of "in-state renewable electricity generation facility in Section 25741 of the California Public Resources Code.

The use of energy associated with the projects includes both construction and operational activities. Implementation of ICA PCD's Standard mitigation measures and the greenhouse gas offset measures listed above will ensure that the projects energy consumption during construction is reduced to a level below significance. The projects would no result in noncompliance with existing energy standards. The projects would generate renewable energy resources, resulting in beneficial effects. Therefore, impacts would be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-7

Result in negative effects on energy resources.

The projects would assist IID in meeting California's mandate to procure 33 percent of its power

from renewable resources.

Dixieland East Solar Farm and Dixieland West Solar Farm

The projects would not result in negative effects on energy resources. The projects would assist IID in meeting California's mandate to procure 33 percent of its power from renewable resources, which is considered a beneficial impact. Therefore, impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

4.14.3 Decommissioning/Restoration and Residual Impacts

Decommissioning/Restoration

It is anticipated that a small quantity of water would be required during decommissioning of the projects and site restoration at the end of the projects' 20-year life. However, it is anticipated that this water need would be less than what is required for construction and operation of the projects. Therefore, a **less than significant** impact is identified and no mitigation is required. Decommissioning and restoration activities would not require energy so no impact is identified and no mitigation is required.

Residual

The projects will not result in significant impacts to the water supply or energy resources of Imperial County; therefore, no mitigation is required. The projects will not result in residual impacts.

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5.0 ANALYSIS OF LONG-TERM EFFECTS

5.1 GROWTH INDUCING IMPACTS

In accordance with Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines, an Environmental Impact Report (EIR) must:

"discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth ... Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Projects promoting direct growth will impose burdens on a community by directly inducing an increase in population, or resulting in the construction of additional developments in the same area. For example, infrastructure projects involving the expansion, modifications, or additions to infrastructure could have the potential to directly promote growth by removing existing physical barriers or allowing for additional development through capacity increases. New roadways leading into a previously undeveloped area directly promote growth by removing previously existing physical barriers to development and a new wastewater treatment plant would allow for further development within a community by increasing infrastructure capacity. Because these types of infrastructure projects directly serve related projects and result in an overall impact to the local community, associated impacts cannot be considered isolated. Indirect growth typically includes substantial new permanent employment opportunities and can result from these aforementioned modifications.

The proposed projects are located within the unincorporated area of Imperial County and do not involve the development of permanent residences that would result in a direct population growth in the area. The proposed projects involve the construction and operation of solar facilities. According to the project applicant, the construction workforce is expected to reach a peak of approximately 30 temporary workers for construction of the projects. The unemployment rate in Imperial County, as of July 2015 (not seasonally adjusted) was 21.1 percent (Labor Market Information Division of the California Employment Development Department 2015). The applicant expects to utilize construction workers from the local and regional area. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed projects would not have a growth-inducing effect related to workers moving into the area and increasing the demand for housing and services. After the construction of the proposed projects, no permanent construction workers would be hired. The facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. As such, the proposed projects would not induce substantial population growth in the area.

While the proposed projects would contribute to energy supply, which indirectly supports population growth, the proposed development of these projects is a response to the State's need for renewable energy to meet its Renewable Portfolio Standard. Unlike a gas-fired power plant, the proposed projects are not being developed as a source of base-load power in response to growth in demand for electricity. The power generated would be added to the State's electricity grid with the intent that it would displace fossil fueled power plants and their associated environmental impacts, consistent with the findings and declarations in Senate Bill 2 (2011) that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. In addition, the Energy Policy Act of 2005 (Title II, Section 211) helps the Department of Interior (DOI) work towards achieving the goal of approving at least 10,000 megawatts (MW) of renewable energy on public lands by 2015. The projects are being proposed in response to State and Federal policy and legislation promoting development of renewable energy.

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

Under CEQA, an EIR should consider potentially significant energy implications of a project (see CEQA Guidelines Appendix F(II); Pub. Res. Code Section 21100(b)(3)). However, the relationship between the proposed project's increased electrical capacity and the growth-inducing impacts outside the surrounding area is too speculative and uncertain to warrant further analysis. When a project's growth-inducing impacts are speculative, the lead agency should consider 14 California Code of Regulations §15145, which provides that, if an impact is too speculative for evaluation, the agency should note this conclusion and terminate discussion of the impact. As the court explained in *Napa Citizens for Honest Gov't v. Napa County Board of Supervisors* (2001) 91 Cal. App.4th 342, 368: "Nothing in the Guidelines, or in the cases, requires more than a general analysis of projected growth." *Napa Citizens*, 91 CA4th at 369. The problem of uncertainty of the proposed project's growth-inducing effects cannot be resolved by collection of further data due to the diversity of factors affecting growth.

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

Additionally, the projects would not involve the development of any new roadways, new water systems, or sewer and thus, the projects would not further facilitate additional development into outlying areas. The facilities would be remotely operated, with no requirement for daily on-site employees. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. No infrastructure improvements (potable water and septic system) would be required. For these reasons, none of the projects would be growth-inducing.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

In accordance with CEQA Guidelines Section 15126.2(c), an EIR must identify any significant irreversible environmental changes that would be caused by implementation of the proposed projects being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-renewable resources or secondary growth-inducing impacts that commit future generations to similar uses.

Energy resources needed for the construction of the proposed projects would contribute to the incremental depletion of renewable and non-renewable resources. Resources such as timber used in building construction are generally considered renewable and would ultimately be replenished. Non-renewable resources such as petrochemical construction materials, steel, copper, lead and other metals, gravel, concrete, and other materials are typically considered finite and would not be replenished over the lifetime of each of the projects. Thus, the projects would irretrievably commit resources over the anticipated 20-year life of the projects. However, after 20 years, these projects are planned to be decommissioned and the project applicant is required to restore land to its pre-project state. Consequently, some of the resources on the sites could potentially be retrieved after the sites have been decommissioned. The applicant anticipates using the best available recycling measures at the time of decommissioning.

Implementation and operation of the proposed projects would promote the use of renewable energy and contribute incrementally to the reduction in demand for fossil fuel use for electricity-generating purposes. Therefore, the incremental reduction in fossil fuels would be a positive effect of the commitment of nonrenewable resources. Additionally, the projects are consistent with future buildout plans for the project sites under the General Plan as well as with the State's definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. Furthermore, as shown in Figure 3-3, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. The Renewable Energy/Geothermal overlay zone category was developed to identify areas in Imperial County that could be developed with any form of renewable energy technology, including geothermal production. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting agricultural, natural, and cultural resources.

5.3 UNAVOIDABLE ADVERSE IMPACTS

In accordance with CEQA Guidelines Section 15126(b), EIRs must include a discussion of significant environmental effects that cannot be avoided if the proposed project is implemented. The impact analysis, as detailed in Section 4.0 of this EIR, concludes that no unavoidable significant impacts were identified. Where significant impacts have been identified, mitigation measures are proposed, that when implemented, would reduce the impact level to less than significant.

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6.0 CUMULATIVE IMPACTS

The California Environmental Quality Act (CEQA) Guidelines (Section 15355) define a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The CEQA Guidelines [Section 15130(a)(1)] further states that "an Environmental Impact Report (EIR) should not discuss impacts which do not result in part from the project."

Section 15130(a) of the *CEQA Guidelines* provides that "[A]n EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable..." Cumulatively considerable, as defined in Section 15065(a)(3), "means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

An adequate discussion of significant cumulative impacts requires either: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or (2) "a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact."

The CEQA Guidelines recognize that cumulative impacts may require mitigation, such as new rules and regulations that go beyond project-by-project measures. An EIR may also determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The Lead Agency must identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable (CEQA Guidelines Section 15130(a)(3)).

This EIR evaluates the cumulative impacts of the projects for each resource area, using the following steps:

- (1) Define the geographic and temporal scope of cumulative impact analysis for each cumulative effects issue, based on the project's reasonably foreseeable direct and indirect effects.
- (2) Evaluate the cumulative effects of the projects in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Imperial Valley.
- (3) Evaluate the projects' incremental contribution to the cumulative effects on each resource considered in Chapter 4, Environmental Analysis. When the projects' incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the projects' "fair share" contribution to the cumulative effect are discussed, where required.

6.1 GEOGRAPHIC SCOPE AND TIMEFRAME OF THE CUMULATIVE EFFECTS ANALYSIS

The geographic area of cumulative effects varies by each resource area considered in Chapter 4. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. Similarly, impacts to the habitats of special-status wildlife species need to be considered within its range of movement and associated habitat needs. The analysis of cumulative effects in this EIR considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on the topography surrounding the project sites and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects will often extend beyond the scope of the direct effects of a project, but not beyond the scope of the direct and indirect effects of that project.

The cumulative development scenario includes projects that extend through year (2030), which is the planning horizon of the County of Imperial General Plan. Likewise, the lease term for the solar fields is 20 years with land restoration commencing thereof, should the lease and/or CUP not be renewed. It is likely that other similar projects would be developed between the year 2030 and the end of the lease term. However, due to uncertain development patterns that far in the future, it is too speculative to accurately determine the type and quantity of cumulative projects beyond the planning horizon of the County's adopted County General Plan.

6.2 PROJECTS CONTRIBUTING TO POTENTIAL CUMULATIVE IMPACTS

The CEQA Guidelines identify two basic methods for establishing the cumulative environment in which the projects are to be considered: the use of a list of past, present, and probable future projects (the "list approach") or the use of adopted projections from a general plan, other regional planning document, or certified EIR for such a planning document (the "plan approach").

This cumulative impact analysis utilizes the project's, where applicable based on geography and the resource area analyzed, identified in the Final Programmatic Environmental Impact Report for the Renewable Energy and Transmission Element Update (State Clearinghouse No. 2014071062), which analyzed the expected environmental impacts resulting from approval of the Renewable Energy and Transmission Element and associated impacts from subsequent development of future renewable energy facilities in Imperial County. As discussed in Chapter 3 of this EIR, as part of the Renewable Energy and Transmission Element Update, the County developed a draft Renewable Energy (RE) Overlay Zone Map, which identifies locations within the County authorized for development and operation of renewable energy projects with an approved Renewable Energy Conditional Use Permit (RECUP). The proposed RE Overlay Zone is focused in areas that were determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. The RE Overlay Zone covers approximately 61,627.10 acres of land and surface water within the Salton Sea. The Overlay Zone Map contains three categories: 1) Geothermal, 2) Renewable Energy, and 3) Renewable Energy/Geothermal. As shown in Figure 3-3, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. The Renewable Energy/Geothermal overlay zone category was developed to identify areas that could be developed with any form of renewable energy technology, including geothermal production. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting agricultural, natural, and cultural resources.

Of the cumulative projects considered in the Renewable Energy and Transmission Element Update EIR, Table 6-1 provides a list of related projects that are actually located within the vicinity of the project sites. No other potential projects are known within the project sites vicinity.

6.3 CUMULATIVE IMPACT ANALYSIS

6.3.1 Aesthetics

The cumulative study area for projects considered in the visual resources cumulative impact analysis considers a five mile radius from the project sites. Views beyond five miles are obstructed by a combination of the flat topography coupled with the Earth's curvature. The short-term visual impacts of the projects would be in the form of general construction activities including grading and the use of construction machinery. Longer-term visual impacts of the projects would be in the form primarily of the presence of solar array grids. The projects would be enclosed by a security fence. DWSF's project fence line and the project components will be set back at least 240 feet from Evan Hewes highway to minimize visual impacts.

TABLE 6-1. PROJECTS CONSIDERED IN THE CUMULATIVE IMPACT ANALYSIS

Project Name	Description of Project	Size/ Location	Status
Imperial Solar Energy Center–West (CACA- 51644)	Imperial Solar Energy Center-West consists of two primary components: (1) the construction and operation of the 250 MW Imperial Solar Energy Center West solar energy facility; and (2) the construction and operation of the electrical transmission line and associated access/maintenance road that would connect from the solar facility to the existing Imperial Valley substation. The development of the solar energy center is on 1,130 acres of vacant land previously utilized for agricultural purposes.	North of I-8 and immediately west of Westside Main Canal	Final EIR certified in June 2011.
Campo Verde Solar	The Campo Verde Project is located on a 1,400-acre site. The electricity generated at the facility powers nearly 48,000 homes.	Accessed by Diehl Road and south of I8	Approved. Commercial operation began in October 2013.
IID 230 kV Imperial Valley to Dixieland Transmission Line and Expansion of Substations Project	Construction of a 230kilovolt (kV) transmission line (referred to as the ID Line) between the Imperial Valley (IV) and Dixieland Substations, including associated poles and maintenance roads, and substation improvements to the existing Dixieland Substation. This proposed transmission line would be located within a portion of the Utility Corridor "N" of BLM's California Desert Conservation Area in unincorporated Imperial County, southwest of El Centro, California. The transmission line would be located within a new 140-foot-wide right-ofway (ROW) through both Federal and non-Federal lands. In addition to a new transmission line, IID would construct a new 230-kV substation approximately 400 feet north of the IV Substation (proposed Liebert Substation) and expand the existing Dixieland Substation.	The proposed transmission line would be located within a portion of the Utility Corridor "N" of BLM's California Desert Conservation Area in unincorporated Imperial County, southwest of El Centro, California.	

Source: Compiled by HDR 2015.

As provided in Section 4.1, Aesthetics, areas to the east of the project area (east of the Westside Main Canal), are generally level and characterized as an agriculturally dominated landscape. Views to the north, south, and west are characterized as a desert environment. As previously described, the project sites are currently disturbed natural habitat. No distinctive visual resources, with the exception of background views of the mountains are located within the general area. Construction of the projects would alter the existing visual character of the project areas and their surroundings as a result of converting existing vacant dessert land to a small-scale solar energy facility. Because the visual changes associated with the projects would be located in a remote area viewed by a minimal number of people, the project sites are not located within scenic vistas, and are not readily viewable from any frequently travelled interstates or scenic highways no impact has been identified. Additionally, the proposed heights of project components would not obscure the background views of the mountains. The small addition to existing power lines that will connect with the existing substation would be similar to the existing conditions in the area, and would generally not be perceptible at a distance. Further, the project sites would be would be transitioned back to their prior (pre-solar project) conditions following the decommissioning of the solar uses. As a result, although the visual character of the project area would change from that of a desert landscape to one with developed characteristics, a less than significant impact associated with the proposed projects has been identified.

Development of the proposed projects in conjunction with the cumulative projects identified in Table 6-1 will gradually change the visual character of the south-central portion of Imperial Valley, and in particular those areas that are currently agricultural lands that have been approved for utility-scale solar projects. However, projects located within private lands and/or under the jurisdiction of the County of Imperial are being designed in accordance with the County of Imperial's General Plan and Land Use Ordinance, which includes policies to protect visual resources in the County.

Cumulative projects including the Imperial Solar Energy Center West, Campo Verde, and others south of Interstate 8 (I-8) would not have a cumulative effect on a scenic vista because they are located in an area that is not identified as a designated scenic resource and would not affect a scenic vista. Nor would the project's contribution be cumulatively considerable for these reasons. All cumulative projects would not impact scenic resources within a state scenic highway as no designated state scenic highway is located within five miles of these cumulative projects.

Finally, all projects listed in Table 6-1 would not produce a substantial amount of light and glare, as no significant source of light or glare is proposed, or the projects will otherwise comply with the County lighting ordinance. Based on these considerations, no significant cumulatively considerable aesthetic impact is anticipated.

6.3.2 Agriculture and Forestry Resources

The geographic scope of cumulative impacts related to agricultural resources is Imperial County because the Imperial Valley Agricultural Complex is 500,000 acres of more-or-less contiguous farm fields located in the Imperial Valley and surrounded by desert and mountain habitat. Irrigated agriculture within the Imperial Valley is made possible by the Colorado Aqueduct. The timeframe considered is the life of the projects since the land would be returned to their prior (pre-solar project) conditions in accordance with a project-specific Reclamation Plan.

Continuing development within the portions of Imperial County that are actively farmed and/or cultivated would result in the conversion of land currently utilized for agricultural production to urban and other land uses. This agricultural conversion has been a continuing trend in the County; based on Department of Conservation (DOC) farmland conversion reports (see Table 4.2-1). During the 2008-2010 time frame, 8,173 acres of Important Farmland were converted to non-agricultural uses (DOC, 2014).

Until about 2011, agricultural land conversion in the County was attributable to more traditional types of development, such as residential subdivisions. However, the residential housing market declined, and was essentially replaced with an influx of renewable energy projects. In particular, the County has experienced a rapid influx of applications for solar development in very recent years. Currently, there are over two dozen solar-related projects proposed within the County. Figure 6-1 depicts the various proposed solar projects in the County and their relationship to agricultural lands.

As discussed in Section 4.2, Agricultural Resources, the project sites do not contain prime farmland or farmland of statewide importance, and are not currently farmed. The DESF has not been irrigated for the production of farmland for over 30 years. The project sites are primarily designated as Other Land. The northern edge of DESF and the northeastern corner of DWSF are designated as Farmland of Local Importance; however, this area does not contain active farmland. It should be noted that analysis of Other Land and Farmland of Local Importance is not required under CEQA significance criteria, as these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). Therefore, development of the DESF and DWSF sites would result in no impact to important farmlands and would have no incremental contribution to a significant agricultural resources cumulative impact.

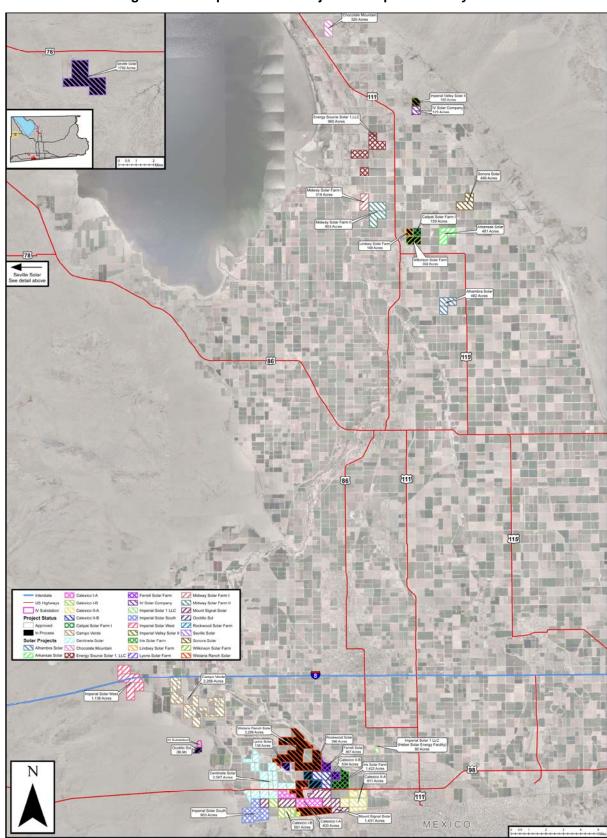


Figure 6-1. Proposed Solar Projects in Imperial County

With the adoption of the Renewable Energy and Transmission Element, future renewable projects in the County would be authorized for development and operation within designated renewable energy overlay zones. The proposed overlay zones are concentrated in areas that were determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. As shown in Figure 3-3, the project sites are located within a proposed Renewable Energy/Geothermal overlay zone. The Renewable Energy/Geothermal overlay zone category was developed to identify areas that could be developed with any form of renewable energy technology, including geothermal production. This Renewable Energy overlay zone category provides the greatest range of opportunities for future development of renewable energy, while preserving and protecting resources (i.e., agricultural resources).

6.3.3 Air Quality

The Salton Sea Air Basin (SSAB) is used as the geographic scope for the analysis of cumulative air quality impacts due to the geographic factors which are the basis for designating the SSAB, the existence of an Air Quality Management Plan (AQMP), State Implementation Plan (SIP), and requirements set forth by the Imperial County Air Pollution Control District (ICAPCD), which apply to both the construction and operational aspects of all cumulative projects within the SSAB.

As identified in Section 4.3, Air Quality, currently the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-hour ozone, PM_{10} ; and $PM_{2.5}$. More specifically, Imperial County is classified as a "serious" non-attainment area for PM_{10} and a "moderate" non-attainment area for 8-hour ozone for the National Ambient Air Quality Standards (NAAQS) and non-attainment for $PM_{2.5}$ for the urban areas of Imperial County.

The Air Quality Attainment Plan (AQAP) for the SSAB, through the implementation of the AQMP (previously AQAP) and SIP for PM₁₀, sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. With respect to PM₁₀, the ICAPCD implements Regulation VIII – Fugitive Dust Rules, to control these emissions and ultimately lead the basin into compliance with air standards, consistent with the AQAP. Within Regulation VIII are Rules 800 through 806, which address construction and earthmoving activities, bulk materials, carry-out and track-out, open areas, paved and unpaved roads, and conservation management practices. Best Available Control Measures to reduce fugitive dust during construction and earthmoving activities include but are not limited to:

- Phasing of work in order to minimize disturbed surface area;
- Application of water or chemical stabilizers to disturbed soils;
- Construction and maintenance of wind barriers; and
- Use of a track-out control device or wash down system at access points to paved roads.

Compliance with Regulation VIII is mandatory on all construction sites, regardless of size. However, compliance with Regulation VIII does not constitute mitigation under the reductions attributed to environmental impacts. In addition, compliance for a project includes: (1) the development of a dust control plan for the construction and operational phase; and (2) notification to the air district is required 10 days prior to the commencement of any construction activity.

Construction

The proposed projects would generate air emissions due to vehicle and dust emissions associated with construction activities. Similar effects would also be realized upon site decommissioning, which would be carried out in conjunction with the projects' restoration plan, and subject to applicable ICAPCD standards. Likewise, the other cumulative projects identified in Table 6-1 would result in the generation of air emissions during construction activities.

With respect to the proposed projects, during the construction and decommissioning phases, the projects would generate particulate matter less than 10 microns (PM₁₀), particulate matter less than

2.5 microns ($PM_{2.5}$), reactive organic gas (ROG), and nitrogen oxide (NO_X) emissions during each active day of construction.

Air emissions from the construction of the entire SEPV Project would not exceed the ICAPCD significance thresholds for ROG, CO, NO_x, and PM₁₀; therefore, the impact would be less than significant.

However, the projects' impact could be cumulatively considerable because: (1) portions of the SSAB are nonattainment already (PM_{10} and $PM_{2.5}$), although mitigated by ICAPCD Regulations as discussed above; and, (2) project construction would occur on most days, including days when ozone already in excess of State standards. Additionally, the effects would again be experienced in the future during decommissioning in conjunction with site restoration. The proposed projects, in conjunction with the construction of other cumulative projects as identified in Table 6-1 could result in a cumulatively considerable increase in the generation of PM_{10} and NO_x ; however, like the proposed projects, cumulative projects would be subject to mitigation as pursuant to County ICAPCD's Regulations and Rules, and the cumulative impact would be reduced to a level less than significant through compliance with these measures. Because the projects will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with PM_{10} , the proposed project's contribution is rendered less than cumulatively considerable.

Operation

In the long-term, operation of the proposed projects would result in minor emissions associated with operation and maintenance activities. Table 4.3-9 (see Section, 4.3 Air Quality) summarizes the operational air emissions associated with the projects, and indicates that all operational emissions would not exceed significance thresholds; therefore, the impact would be less than significant. Operational impacts of other renewable energy facilities, including those in the relative vicinity of the proposed projects as identified in Table 6-1 would also be similar, although these cumulative projects involve large areas, their operational requirements are very minimal, requiring minimal staff or use of machinery or equipment that generate emissions. Further, alternative energy projects, such as the projects, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the projects would provide a positive contribution to the implementation of applicable air quality plan policies and compliance with Executive Order S-3-05.

However, from a cumulative air quality standpoint, the potential cumulative impact associated with the generation of PM_{10} and $PM_{2.5}$ emissions during operation of the cumulative projects is a concern due to the fact that Imperial County is classified as a "serious" non-attainment area for PM_{10} and a "moderate" non-attainment area for 8-hour ozone for the NAAQS and non-attainment for $PM_{2.5}$ for the urban areas of Imperial County. With respect to $PM_{2.5}$, the cumulative development identified in Table 6-1, including the proposed projects are not located within urban areas of the Imperial Valley, therefore, the contribution of $PM_{2.5}$ emissions is not considered cumulatively considerable.

As shown in Table 4.3-10, the projects' operational contribution to PM_{10} is below a level of significance. However, when combined with other cumulative projects, the operational PM_{10} emissions would likely exceed daily thresholds which is considered a potentially significant cumulative impact. As with the construction phases, the cumulative projects would be required to comply with ICAPCD's Regulation VIII for dust control (Regulation VIII applies to both the construction and operational phases of projects). As a result, the ICAPCD would require compliance with the various dust control measures and may, in additional be required to prepare and implement dust control plans as approved by the ICAPCD, which is a component of ICAPCD's overall framework of the AQAP for the SSAB, which sets forth a comprehensive program that will lead the SSAB into compliance with all federal and state air quality standards. Therefore, the projects would not contribute to long-term cumulatively considerable air quality impacts and the projects would not result in cumulatively significant air quality impacts.

6.3.4 Biological Resources

The geographic scope for considering cumulative impacts on biological resources includes the Imperial Valley and related biological habitats. The geographic scope also allows for the consideration of the

Pacific Migration Flyway. Table 6-1 lists the projects considered for the biological resources cumulative impact analysis.

In general terms, in instances where a potential impact could occur, the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) have promulgated a regulatory scheme that limits impacts to these species. The effects of the projects would be rendered less than significant through mitigation requiring compliance with all applicable regulations that protect plant, fish, and animal species, as well as waters of the U.S. and State. Other cumulative projects in the project study areas would also be required to avoid impacts to special-status species and/or mitigate to the satisfaction of the CDFW and USFWS for the potential loss of habitat. As described in Section 4.4, Biological Resources, the projects have the potential to result in impacts to biological resources. These impacts are generally focused on potential construction-related affects to burrowing owl, raptor species, migratory birds, mountain plover, long billed curlew, short billed dowitcher, horned lark, and loggerhead shrike.

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (2012) and Consortium guidance (1993), which require a suite of mitigation measures to ensure direct effects to burrowing owls during construction activities are avoided and indirect effects through burrow destruction and loss of foraging habitat are mitigated at prescribed ratios. Mitigation Measures 4.4-1a and 4.4-1b contain these requirements thereby minimizing potential impacts to these species to a less than significant level. Additionally, as provided in Section 4.4, Biological Resources, the project sites contain suitable habitat for migratory birds, raptors, mountain plover, long billed curlew, short billed dowitcher, horned lark, and loggerhead shrike. As a result of project-related construction activities, one or more of these species could be harmed. However, with the implementation of Mitigation Measures 4.4-1e, 4.4-1f, and 4.4-1g as identified in Section 4.4 Biological Resources, these impacts would be reduced to a level of less than significant. Similarly, the cumulative projects within the geographic scope of the projects would be required to comply with the legal framework as described above. Based on these considerations, impacts to biological resources would not be cumulatively considerable.

As with the proposed projects, each of the cumulative projects would be required to provide mitigation for impacts to biological resources. Although some quantitative information regarding cumulative project biological impacts was available, such information was not available for most. Therefore, the analysis below is conducted qualitatively and in the context that the cumulative projects would be subject to a variety of statutes and administrative frameworks that require mitigation for impacts to biological resources.

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

The Federal Clean Water Act (CWA) and California's Porter-Cologne Water Quality Control Act provide protection for water-related biological resources by controlling pollution, setting water quality standards, and preventing jurisdictional streams, lakes, and rivers from being filled without a federal permit. No jurisdictional wetlands are located with the project sites or off-site transmission area that could otherwise be directly impacted by construction of the proposed projects. Likewise, Mitigation Measures 4.9-1a and 4.9-4 would be required to avoid or minimize potential water quality impacts that could otherwise indirectly impact biological resources.

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

6.3.5 Cultural Resources

As discussed in Section 4.5, Cultural Resources, all items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program are not "unique archaeological resources" or "historical resources" under CEQA. Therefore, the projects would not impact cultural resources and would not contribute to a cumulative impact to cultural resources.

The other cumulative projects would be required to provide mitigation for any direct impacts to cultural resources to reduce impacts. Because the cultural resources within the geographic scope of this cumulative impact analysis are important for their potential contribution to knowledge of history, Mitigation Measures CR-1 and CR-2 are included in this EIR to ensure the proper collection and systematic data recovery for any undocumented archaeological resources that may be encountered during construction. Implementation of these mitigation measures would reduce the potential for cumulative impacts to these resources as a result of the projects.

Based on these findings, there would be no net loss in the cumulative value/context of cultural resources within the geographic scope of the cumulative analysis. With the inclusion and compliance with the required mitigation measures, the value of any undocumented archaeological resources encountered during construction would be exhausted through a data recovery program. Therefore, the projects would not result in a cumulative cultural resources impact.

6.3.6 Geology and Soils

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

With regards to mineral resources, no mineral resources are located within the boundaries of the project study areas. Therefore, the projects would not result in a cumulative geology/soils impact for mineral resources.

6.3.7 Greenhouse Gas Emissions

Emissions of greenhouse gases (GHGs) have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. Although the emissions of the projects alone would not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; affect rainfall and snowfall, leading to changes in water supply; and affect habitat, leading to adverse effects on biological resources. The South Coast Air Quality Management District (SCAQMD) has proposed a threshold of 3,000 tonnes of carbon dioxide equivalents (tCO_{2e}), for residential and commercial projects; which was applied to the project analysis as provided in Section 4.7, Greenhouse Gases. As provided, the proposed projects' CO₂ emissions would not exceed SCAQMD's threshold of 3,000 tCO₂e. Although the proposed projects would not exceed SCAQMD's threshold, consistent with the intent of AB 32, the proposed projects should demonstrate that policies are in place that would assist in providing a statewide reduction in CO₂ emissions. Therefore, Mitigation Measures GHG-1 and GHG-2 are prescribed as additional reduction strategies to further improve air quality and reduce GHG emissions.

Given that the projects are characterized as renewable energy projects and places emphasis on solar power generation, project operations would be almost carbon-neutral with the majority of the operational

GHG emissions associated with employee vehicle trips. Based on these considerations, no significant long-term operational GHG impacts would occur and, therefore, project-related GHG impacts would not be cumulatively considerable.

6.3.8 Hazards/Hazardous Materials

The geographic scope considered for cumulative impacts from health, safety and hazardous materials is the area within one mile of the boundary of the project sites. One mile is the standard American Society of Testing and Materials (ASTM) standard search distance for hazardous materials.

Under cumulative conditions, implementation of the projects in conjunction with development of projects listed in Table 6-1 is not anticipated to present a public health and safety hazard to residents. Additionally, the projects and related projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction and operation. Impacts from these activities are less than significant for the projects because the storage, use, disposal, and transport of hazardous materials are extensively regulated by various Federal, state, and local laws, regulations, and policies. It is foreseeable that the projects and related projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Therefore, the related projects would not cause a cumulative impact, and the projects would not result in a cumulatively considerable incremental contribution to a cumulative impact related to use or routine transport of hazardous materials.

6.3.9 Hydrology/Water Quality

The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin Regional Water Quality Control Board (RWQCB) Basin Plan (2005). The construction of the projects are expected to result in short-term water quality impacts. It is expected that some of the cumulative projects, which are not yet built, could be under construction at the same time as the projects. Therefore, substantial short-term cumulative water quality impacts may occur during simultaneous construction of the projects and other cumulative projects. However, compliance with the SWRCB's National Discharge Pollution Discharge Elimination System (NPDES) general permit for activities associated with construction (2009-0009-DWQ) would reduce water quality impacts. As with the projects, each of the cumulative projects would be required to comply with the Construction General Permit. The SWRCB has determined that the Construction General Permit protects water quality, is consistent with the Clean Water Act, and addresses the cumulative impacts of numerous construction activities throughout the State. This determination in conjunction with the implementation of Mitigation Measures HWQ-1 and HWQ-2 would ensure short-term water quality impacts are not cumulatively considerable.

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

Based on a review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the project sites are located within Zone X, which is an area determined to be outside of the 100-year floodplain. As such, the projects would not result in a significant cumulatively considerable impact to floodplains by constructing new facilitates within an identified flood hazard zone.

As discussed in Section 4.9, Hydrology/Water Quality, the proposed projects would not result in the alteration of existing drainage patterns thereby increasing the rate or amount of surface runoff in a manner that could result in on or off-site flooding and downstream erosion and sedimentation. The

proposed on-site retention basins would provide more than the required runoff storage volume. Based on these considerations, the projects would not contribute to or result in a significant cumulatively considerable adverse hydrological or water quality impact.

6.3.10 Land Use and Planning

The geographic scope for the analysis of cumulative land use and planning impacts is typically defined by government jurisdiction. The geographic scope for considering potential inconsistencies with the General Plan's policies, including agriculture, from a cumulative perspective includes all lands within the County's jurisdiction and governed by its currently adopted General Plan. In contrast, the geographic scope for considering potential land use impacts or incompatibilities include the project sites plus a one-mile buffer to ensure a consideration for reasonably anticipated potential direct and indirect effects.

As provided in Section 4.10, Land Use and Planning, the projects would not involve any facilities that could otherwise divide an established community. Based on this circumstance, no cumulatively considerable impacts would occur. As discussed in Section 4.10, Land Use and Planning, the projects would not conflict with the goals and objectives of the County of Imperial General Plan. In addition, a majority of the cumulative projects identified on Table 6-1 would not result in a conflict with applicable land use plans, policies, or regulations. In the event that incompatibilities or land use conflicts are identified for other projects listed in Table 6-1, similar to the projects, the County would require mitigation to avoid or minimize potential land use impacts. Based on these circumstances, no cumulatively considerable impact would occur.

6.3.11 Noise and Vibration

When determining whether the overall noise (and vibration) impacts from related projects would be cumulatively significant and whether the projects' incremental contribution to any significant cumulative impacts would be cumulatively considerable, it is important to note that noise and vibration are localized occurrences; as such, they decrease rapidly in magnitude as the distance from the source to the receptor increases. Therefore, only those related projects and identified in Table 6-1 that are in the direct vicinity of the project sites and those that are considered influential in regards to noise and vibration would have the potential to be considered in a cumulative context with the projects' incremental contribution.

Construction equipment noise from the related projects identified in Table 6-1 would be similar in nature and magnitude to those discussed for the projects in Section 4.11, Noise and Vibration. Specifically, noise levels from on-site construction activities would fluctuate depending on the particular type, number, and duration of usage for the varying equipment. Construction noise from the proposed projects was analyzed at the nearest sensitive receptors. For the nearest sensitive receptors, the highest construction noise levels would be experienced when construction is nearest, identified as the mobile home residence located 175 feet east of the DESF site. At this distance, the received sound level would be 73 dBA Leg 1hour; however, this sound level would only be experienced for a day or two at most since the construction is not stationary and will move throughout the project area. The sound level calculated at the project centroid would be considered an average for the duration of construction and would be approximately 1,300 feet from the nearest residential area. At this distance the received sound level would be 49 dBA Leg 1-hour. Because construction would be restricted to daytime hours over a period of 36 weeks for the entire project, the use of muffled equipment shall be kept in good working order, and would not exceed applicable regulatory limits. The associated construction noise impacts would be considered less than significant. Although no significant noise impact has been identified, Mitigation Measures NOI-1 through NOI-4 would ensure that noise would not rise to a level of significance. These measures are expected to be sufficient in minimizing construction noise related impacts to a less than significant level. Thus, the incremental contribution of the projects to significant cumulative noise impact would not be cumulatively considerable.

Groundborne noise and vibration levels from construction of the aforementioned related projects would be similar in nature and magnitude to those discussed in Section 4.11, Noise and Vibration. Specifically, construction activities would result in varying degrees of temporary groundborne noise and vibration,

depending on the specific construction equipment used and activities involved (see, for example, Table 4.11-5). Although detailed information is not currently available, construction of the related projects would be anticipated to result in maximum groundborne noise and vibration levels associated with bulldozing activities. According to the Federal Transit Administration (FTA), levels associated with the use of a large bulldozer are 0.089 inches per second (in/sec) peak particle velocity (PPV) at 25 feet, respectively. With respect to the prevention of structural damage, bulldozing would not exceed the Caltrans-recommended level of 0.2 in/sec PPV even at a distance of 25 feet. Given that all adjacent structures would generally be 100 feet of more from construction activities, the projects would result in less than significant vibration impacts and, therefore, these impacts are not cumulatively considerable.

Stationary-source and vehicular noise from the aforementioned related projects would be similar in nature and magnitude to those discussed for the projects in Section 4.11, Noise and Vibration. Operation of the related projects could result in the long-term stationary source noise levels that exceed applicable standards at nearby sensitive receptors and/or result in substantial increases in ambient noise levels. Given that the project facilities would be constructed within the A-2 zone, long-term operational noise levels are not expected to exceed normally acceptable noise levels for this zone (e.g., 70 dBA day-night average sound level [L_{dn}]). Thus, the incremental contribution of the projects to significant cumulative noise impacts would not be cumulatively considerable.

6.3.12 Public Services

The projects would result in increased demand for public services (fire protection service and law enforcement services) (see Section 4.12, Public Services). Future development in the Imperial Valley, including projects identified in Table 6-1, would also increase the demand for public services. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public services within their jurisdictional boundaries. In conjunction with the projects' approval, the project applicant would also be conditioned to ensure sufficient funding is available for any fire protection or prevention needs and law enforcement services. Based on the type of projects proposed (e.g. solar energy generation), their relatively low demand for public services other than fire and police, it is reasonable to conclude that the projects would not increase demands for education, or other public services. Service impacts associated with the projects related to fire and police would be addressed through payment of impact fees as part of the project's Conditions of Approval to ensure that the service capabilities of these departments are maintained. Therefore, no cumulatively considerable impacts would occur.

6.3.13 Transportation/Traffic

As discussed in Section 4.13, Transportation/Traffic, during construction the project will generate less than 100 peak hour trips (PCEs) and 148 daily trips (PCEs); however this is considered a worst case scenario. Therefore, the proposed project's impact would not degrade existing LOS since both roadways are lightly used and traffic volumes, even during construction of DESF and DWSF, would be well below the capacities of the roadways. Additionally, during operation, each facility will employ up to three individuals on a part-time basis to provide maintenance, repair, and other services required to ensure the facility continues generating energy over its lifetime. These workers will not be on-site on a daily basis, but only as-needed for panel washing and maintenance and repair activities. No capacity-related traffic impacts are anticipated as a result of this project. Therefore, the DESF and DWSF projects will not exceed the County's intent of providing a system of roads and streets which operate at a LOS C or better, during construction and/or operation. A less than significant impact is identified and no mitigation is required.

The proposed projects, in conjunction with existing, approved, proposed and reasonably foreseeable projects within the County, would have the potential to result in cumulative traffic impacts; however, it is unlikely that the majority of the foreseeable projects within the County would be under construction at the same time as the proposed projects. Furthermore, as the majority of cumulative projects in Imperial County are renewable energy facilities, it is anticipated that these are likely to be developed over a long period of time and it is unlikely that a large number of future facilities would be developed at the same

time. Due to the long duration of development, it is unlikely that high levels of construction traffic would occur concurrently. Therefore, the proposed projects would not result in cumulatively considerable roadway or intersection impacts.

6.3.14 Utilities/Service Systems

Future development in Imperial County would increase the demand for utility service in the region. In terms of cumulative impacts, the appropriate service providers are responsible for ensuring adequate provision of public utilities within their jurisdictional boundaries. As indicated in Sections 4.14, Utilities/Service Systems, the necessary public utilities would be provided to the projects by IID; however, the projects by themselves are not expected to substantially increase demands for any particular service provider. The related projects identified in Table 6-1 would rely on similar service providers. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. No extension of sanitary sewer service would be required. The projects would be comprised of mostly recyclable materials and would not generate significant volumes of solid waste that could otherwise contribute to significant decreases in landfill capacity. Based on these considerations, the projects would result in less than significant impacts to existing utility providers and, therefore, would not result in cumulatively considerable impacts.

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7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

In accordance with Section 15128 of the California Environmental Quality Act (CEQA) Guidelines, an Environmental Impact Report (EIR) must contain a statement briefly indicating the reasons that various potential significant effects of a project were determined not to be significant. Based on the Initial Study and Notice of Preparation prepared for the proposed projects (Appendix A), Imperial County has determined that the proposed projects would not have the potential to cause significant adverse effects associated with the topics identified below. Therefore, these topics are not addressed in this EIR; however, the rationale for eliminating these topics is briefly discussed below.

7.1 FORESTRY RESOURCES

The project sites are located on privately owned, undeveloped, but partially disturbed land. No portion of the project sites (or the immediate vicinity) is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the projects would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed projects would not impact forestry resources.

7.2 MINERAL RESOURCES

The project sites are not used for mineral resource production and the applicant is not proposing any form of mineral extraction. According to the Conservation and Open Space Element of the County of Imperial General Plan, no known mineral resources occur within the project sites nor do the project sites contain mapped mineral resources. As such, the proposed projects would not adversely affect the availability of any known mineral resources within the project sites.

7.3 RECREATION

The proposed projects would not generate new employment on a long-term basis. The facilities would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. As such the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in or impact on the use of parks. Additionally, the projects do not include or require the expansion of recreational facilities.

7.4 POPULATION AND HOUSING

The project sites are currently vacant. Development of housing is not proposed as part of the projects. The facilities would be remotely operated, controlled and monitored and with no requirement for daily onsite employees. A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels. The proposed projects would not result in a substantial population growth, as the number of employees required to operate and maintain the facilities is minimal. Furthermore, no residences are located within the project sites.

7.5 PUBLIC SERVICES

Schools, Parks and Other Facilities

The proposed projects do not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations.

Additionally, operation of the proposed projects would require minimal part-time staff for maintenance. Therefore, substantial permanent increases in population that would adversely affect local parks, libraries, and other public facilities (such as post offices) are not expected.

7.6 UTILITIES

Wastewater and Stormwater

The projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. The proposed projects would not exceed wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB). The proposed projects are not anticipated to generate a significant increase in the amount of runoff water from water use involving solar panel washing. Water will continue to percolate through the ground, as a majority of the surfaces on the project site will remain pervious. The proposed projects would not substantially alter the existing drainage pattern of the site, substantially increase the rate of runoff, or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems. No IID drains or canals will be removed or relocated within the project. A less than significant impact is identified for these issue areas.

Solid Waste

During construction and operation of the projects, waste generation will be minor. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. There are over 40 solid waste facilities listed in Imperial County in the CalRecycle database. Trash would likely be hauled to the Imperial Solid Waste Site located approximately nine miles northeast from the project area. The facility has approximately 183, 804 cubic yards of capacity remaining (reporting date May 2012). The Imperial Solid Waste Site has a maximum permitted throughput of 18 tons/day and is estimated to remain in operation until March 1, 2019 (http://www.calrecycle.ca.gov/SWFacilities/Directory/13-AA-0001/Detail/). Therefore, there is ample landfill capacity to receive the minor amount of solid waste generated by project construction and operation.

Additionally, because the proposed projects would generate solid waste during construction and operation, they will be required to comply with State and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP for each project site will contain provisions for recycling and diversion of construction waste per policies of the County. A less than significant impact is identified for this issue.

Further, when the proposed projects reach the end of their operational life, the components will be decommissioned and deconstructed. Decommissioning of the projects will require removal of the solar panels and associated infrastructure and returning the landscape to condition prior to construction. It is expected that many components will be suitable for recycling or reuse and the facility decommissioning will be designed to optimize such salvage as circumstances allow and in compliance with all local, state, and federal regulations as they exist at the time of decommissioning. Commercially reasonable efforts will be used to recycle or reuse materials from the decommissioning of the project sites. All other materials will be disposed of at a licensed facility. Therefore, no impacts are identified for this issue.

8.0 ALTERNATIVES

8.1 INTRODUCTION

The identification and analysis of alternatives is a fundamental concept under the California Environmental Quality Act (CEQA). This is evident in that the role of alternatives in an Environmental Impact Report (EIR) is set forth clearly and forthrightly within the CEQA statutes. Specifically, CEQA §21002.1(a) states:

"The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."

The CEQA Guidelines require an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines §15126.6(a)). The CEQA Guidelines direct that selection of alternatives focus on those alternatives capable of eliminating any significant environmental effects of the project or of reducing them to a less-than significant level, even if these alternatives would impede to some degree the attainment of project objectives, or would be more costly. In cases where a project is not expected to result in significant impacts after implementation of recommended mitigation, review of project alternatives is still appropriate.

The range of alternatives required within an EIR is governed by the "rule of reason" which requires an EIR to include only those alternatives necessary to permit a reasoned choice. The discussion of alternatives need not be exhaustive. Furthermore, an EIR need not consider an alternative whose implementation is remote and speculative or whose effects cannot be reasonably ascertained.

Alternatives that were considered but were rejected as infeasible during the scoping process should be identified along with a reasonably detailed discussion of the reasons and facts supporting the conclusion that such alternatives were infeasible.

Based on the alternatives analysis, an environmentally superior alternative is designated among the alternatives. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6(e)(2)).

8.2 CRITERIA FOR ALTERNATIVES ANALYSIS

As stated above, pursuant to CEQA, one of the criteria for defining project alternatives is the potential to attain the project objectives. Established objectives of the project applicant for the proposed projects include:

Overall objective: To utilize Imperial County's abundance of available solar energy (sunlight) to generate renewable energy, consistent with the County General Plan renewable energy objectives. The project applicant and the County identified the following objectives for the projects:

- Construct and operate a solar energy facility capable of producing up to 5 megawatts (MW) of electricity to help meet the State-mandated Renewable Portfolio Standard (RPS) of providing 33 percent renewable energy by 2020.
- Construct and operate a solar power facility in the County's renewable energy overlay zone, ensuring that the projects are within areas determined to be the most suitable for the development of renewable energy facilities and with minimal impacts to the environment.

- Operate a facility at a location that ranks amongst the highest in solar resource potential in the nation.
- Interconnect with existing electrical transmission infrastructure to maximize opportunities for the sharing or use of existing utility transmission corridor(s) and to minimize potential environmental impacts associated with the construction of new infrastructure.
- Comply with the terms and requirements of the long-term power purchase agreement with the Imperial Irrigation District through its Feed-in Tariff program.
- Operate a renewable energy facility that does not produce significant noise nor emit any greenhouse gases.
- Help reduce reliance on foreign sources of fuel.
- Supply on-peak power to the electrical grid in California.
- Help California meet its statutory and regulatory goal of increasing renewable power generation, including greenhouse gas reduction goals of Assembly Bill (AB) 832 (California Global Warming Solutions Act of 2006).
- Contribute to Imperial County's economic growth and reputation as the renewable energy capital of the nation.

8.3 ALTERNATIVES CONSIDERED BUT REJECTED

Alternative Site

Section 15126.6(f)(2) of the CEQA Guidelines addresses alternative locations for a project. The key question and first step in the analysis is whether any of the significant effects of the proposed project would be avoided or substantially lessened by putting the proposed project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR. Further, CEQA Guidelines Section 15126.6(f)(1) states that among the factors that may be taken into account when addressing the feasibility of alternative locations are whether the project proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent).

Choosing an "Alternative Site" was considered but not selected for detailed analysis. The proposed project sites were chosen based on the following parameters: (1) location within the County's renewable energy overlay zone which would ensure that the projects are within areas determined to be the most suitable for the development of renewable energy facilities and with minimal impacts to the environment; (2) proximity to the Dixieland Substation; (3) meets the criteria for IID's Feed-in-Tariff Program (i.e., located within the IID service territory and interconnected in a manner that optimizes deliverable of generation to load centers); and (4) no significant resources present on project sites (i.e., Prime Farmland, Farmland of Statewide Importance, burrowing owl habitat, sensitive vegetation communities). Compared to the proposed project sites, alternative sites in Imperial County would not meet all of the abovementioned parameters. An alternative site on agriculturally zoned land east of the Westside Main Canal or south of I-8 could result in greater impacts associated with the conversion of Prime Farmland or Farmland of Statewide Importance to non-agricultural lands and impacts to burrowing owl habitat. An alternative site on BLM lands could result in greater impacts to cultural resources, native vegetation, and flat-tailed horned lizard habitat. Furthermore, the Applicant does not own or possess access to an alternative site in Imperial County to develop the proposed projects. Therefore, an alternative site was eliminated from further consideration in this EIR.

8.4 ALTERNATIVE 1: NO PROJECT/NO DEVELOPMENT ALTERNATIVE

The CEQA Guidelines require analysis of the No Project Alternative (Public Resources Code Section 15126). According to Section 15126.6(e), "the specific alternative of 'no project' shall also be evaluated

along with its impacts. The 'no project' analysis shall discuss the existing conditions at the time the Notice of Preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

The No Project/No Development Alternative assumes that the Dixieland East Solar Farm (DESF) and Dixieland West Solar Farm (DWSF) projects, as proposed, would not be implemented and the project sites would not be developed. The No Project/No Development Alternative would not meet any of the project objectives.

Environmental Impact of Alternative 1 – No Project/No Development Alternative

Aesthetics: Because the No Project/No Development Alternative would not modify the existing project sites or add construction to the project sites, there would be no change to the existing condition of the sites. Under this alternative, there would be no new source of light and glare, which could adversely affect day or nighttime views in the project area. Compared to the proposed projects, this alternative would have less of an impact related to aesthetics/visual resources.

Agriculture: Under the No Project/No Development Alternative, the project sites would not be developed and continue to be undeveloped vacant land. Compared to the proposed projects, implementation of this alternative would avoid the conversion of land designated as Other Land and Farmland of Local Importance per the Farmland Mapping and Monitoring Program (FMMP). However, as previously indicated, these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). Therefore, this alternative would not contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the proposed projects, this alternative would avoid the need for future restoration of the project sites to pre-project conditions.

Air Quality: Under the No Project/No Development Alternative, there would be no air emissions due to project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts to air quality or violation of air quality standards would occur under this alternative. Moreover, this alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors.

During construction, the projects would require incorporation of mitigation to minimize significant air quality impacts to a less than significant level. Therefore, this alternative would result in less air quality emissions compared to the proposed projects. Additionally, the No Project/No Development Alternative would not reduce the long-term need for renewable electricity generation. As a consequence, while the No Project/No Development Alternative would not result in new impacts to air quality as a result of construction, it would likely not realize the overall benefits to regional air quality when compared to the operation of the proposed projects.

Biological Resources: Under the No Project/No Development Alternative, existing biological resource conditions within the project sites would largely remain unchanged and no impact would be identified. Also, unlike the proposed projects which require mitigation for impacts to raptor species and burrowing owl, this alternative would not result in construction of solar facilities that could otherwise result in significant impacts to these biological resources. As with the proposed projects, this alternative would avoid any impacts associated with habitat modification, riparian or wetlands, the movement of fish and wildlife species, and would not conflict with policies or ordinances relative to protection biological species or any provisions of an applicable habitat conservation plan. Compared to the proposed projects, this alternative would avoid impacts to biological resources.

Cultural Resources: The projects include ground-disturbing activities that will extend to depths of 20 feet below the ground surface. As such, the projects have the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. The proposed projects also have the potential to impact paleontological resources. Under the No Project/No Development Alternative, the project sites would not be developed

and no construction-related ground disturbance would occur. Therefore, compared to the proposed projects, this alternative would avoid impacts to cultural resources and paleontological resources.

Geology and Soils: Because there would be no development at the project sites under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impacts to project-related facilities as a result of local seismic or liquefaction hazards, unstable or expansive soils, or suitability of soils for supporting septic tanks. In contrast, the proposed projects would require the incorporation of mitigation measures to minimize impacts to a less than significant level. Compared to the proposed projects, this alternative would avoid significant impacts related to local geological and soil conditions.

Greenhouse Gas Emissions: Under the No Project/No Development Alternative, there would be no greenhouse gas (GHG) emissions resulting from project construction or operation. Therefore, no impact to global climate change would result from project-related GHG emissions, primarily associated with construction activities. For the proposed projects, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the projects would result in an overall beneficial impact to global climate change as the result of creation of renewable energy. While this alternative would not further implement policies (e.g., SB X1-2) for GHG reductions, this alternative would also not directly conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. This alternative would not create any new GHG emissions during construction but would not lead to a long-term beneficial impact to global climate change. Compared to the proposed projects, while the No Project/No Development Alternative would not result in new GHG emissions during construction, it would be less beneficial to global climate change as compared to the proposed projects.

Hazards and Hazardous Materials: The No Project/No Development Alternative would not include any new construction. Therefore, no potential exposure to hazardous materials would occur. Therefore, no impact is identified for this alternative for hazards and hazardous materials. As with the proposed projects, this alternative would not result in safety hazards associated with airport operations. Compared to the proposed projects, this alternative would have less of an impact related to hazards and hazardous materials.

Hydrology/Water Quality: The No Project/No Development Alternative would not result in modifications to the existing drainage patterns or volume of storm water runoff as attributable to the proposed projects, as existing site conditions and on-site pervious surfaces would remain unchanged. In addition, no changes with regard to water quality would occur under this alternative. However, in the context of existing sediment total maximum daily loads (TMDLs) for local drainages, this alternative would not realize the benefits that could be attributed to the projects in terms of reductions in exposed soil surfaces which are identified as a principle contributor to existing water quality impairments. In this context, this alternative would not contribute to any real reduction in the potential for water quality impacts especially, since the projects would require additional mitigation, which would not otherwise be required under this alternative to address existing water quality impairments. Compared to the proposed projects, from a drainage perspective, this alternative would avoid changes to existing hydrology. Similar to the proposed projects, this alternative would not result in the placement of structures within a 100-year flood zone.

Land Use and Planning: The No Project/No Development Alternative would not result in the modification of the existing land use on the project sites. Under the No Project/No Development Alternative, the project sites would not be developed and continue to be undeveloped vacant land. Similar to the proposed projects, the No Project/No Development Alternative would not divide an established community. As with the proposed projects, this alternative would not conflict with any applicable habitat conservation plan or natural community conservation plan. Compared to the proposed projects, this alternative would have less of an impact related to land use and planning.

Noise: This alternative would not require construction or operation of the project facilities; therefore, this alternative would not increase ambient noise levels within the vicinity of the project sites. For this reason, no significant noise impacts would occur. The proposed projects could result in significant noise impacts to a limited number of receptors and, therefore, would require mitigation to reduce these impacts to a less

than significant level. Compared to the proposed projects, this alternative would reduce any potentially significant noise impacts and eliminate the need for the applied mitigation measures.

Public Services: The No Project/No Development Alternative would not increase the need for public services which would otherwise be required for the proposed projects (additional police or fire protection services). Therefore, no impact to public services is identified for this alternative. The proposed projects result in less than significant impacts; subject to payment of law enforcement and fire service fees. Compared to the proposed projects, this alternative would have fewer impacts related to public services.

Transportation/Traffic: Because there would be no new development under the No Project/No Development Alternative, no increase in vehicular trips during construction or operation would result for this alternative. For these reasons, no impact would occur and this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, change air traffic patterns, substantially increase hazards due to a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Although the proposed projects would result in less than significant transportation/traffic impacts, compared to the proposed projects, this alternative would avoid an increase in vehicle trips on local roadways, and any safety related hazards that could occur in conjunction with the increase vehicle trips and truck traffic.

Utilities: The No Project/No Development Alternative would not require the expansion or extension of existing utilities, since there would be no new project facilities that would require utility service. The proposed projects would not result in any significant impacts to existing utilities. Compared to the proposed projects, this alternative would have less of an impact related to utilities.

Conclusion: Implementation of the No Project/No Development Alternative would generally result in reduced impacts for a majority of the environmental issues areas considered in Chapter 4, Environmental Analysis when compared to the proposed projects. A majority of these reductions are realized in terms of significant impacts that are identified as a result of project construction. However, this alternative would not realize the benefits of reduced GHG emissions associated with energy use, which are desirable benefits that are directly attributable to the proposed projects.

Comparison of the No Project/No Development Alternative to Project Objectives

The No Project/No Development Alternative would not meet any of the objectives of the projects. Additionally, the No Project/No Development Alternative would not help California meet its statutory and regulatory goal of increasing renewable power generation, including GHG reduction goals of Assembly Bill (AB) 832 (California Global Warming Solutions Act of 2006).

8.5 ALTERNATIVE 2: DEVELOPMENT OF DIXIELAND EAST SOLAR FARM SITE ONLY

Under this alternative, only the 24-acre DESF project would be constructed and operated. The purpose of this alternative is to avoid potential California Department of Fish and Wildlife (CDFW) and Regional Water Quality Control Board (RWQCB) jurisdictional resources located within the DWSF site. Five ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the DWSF site.

Environmental Impact of Alternative 2: Development of Dixieland East Solar Farm Site Only

Aesthetics: Under Alternative 2: Development of DESF Site Only, the overall size of the solar energy facilities would be reduced by 29 acres. No significant visual aesthetic impact associated with the proposed projects has been identified as the project facilities would not impact scenic resources, result in the degradation of the existing visual character of the project sites, or result in light/glare impacts. In this

context, Alternative 2: Development of DESF Site Only would not reduce or avoid an impact related to aesthetics, and would result in less than significant impacts similar to the proposed projects.

Agriculture: This alternative would avoid the conversion of land designated as Other Land and Farmland of Local Importance per the FMMP on the DWSF site. However, as previously indicated, these designations are not considered an "agricultural land" per CEQA Statute Section 21060.1(a). Therefore, similar to the proposed projects, this alternative would not contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Similar to the proposed projects, the need for future restoration of the project site to pre-project conditions would be required under this alternative. Compared to the proposed projects, this alternative would result in a reduction in acreage required to be restored to pre-project conditions, but would still require mitigation.

Air Quality: Under Alternative 2: Development of DESF Site Only, air emissions during construction would be less than the proposed projects because of the reduced site development. As discussed in Section 4.3, Air Quality, the proposed projects would not exceed the Imperial County Air Pollution Control District (ICAPCD) significance thresholds for ROG, CO, NO_x, and PM₁₀ during construction and operation. Although no significant air quality impacts would occur, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for the control of fugitive dust. In addition, the ICAPCD's Air Quality Handbook lists additional feasible mitigation measures that may be warranted to control emissions of fugitive dust and combustion exhaust. The same mitigation measures would be required for this alternative as with the proposed projects. This alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors. While air emissions would be slightly reduced, the impacts of this alternative to air quality would be similar.

Biological Resources: Under Alternative 2: Development of DESF Site Only, impacts to potential CDFW and RWQCB jurisdictional resources located within the DWSF site would be avoided. Five ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the DWSF site. Mitigation would still be required for impacts to burrowing owl; however, the overall number of burrowing owl locations potentially impacted would be less. Impacts to burrowing owl, migratory corridors, and other wildlife and habitats would be similar to that described for the projects. Compared to the proposed projects, this alternative would result in a reduction in impacts to biological resources, but would still require mitigation.

Cultural Resources: Under Alternative 2: Development of DESF Site Only, ground-disturbing activities will extend to depths of 20 feet below the ground surface, similar to the proposed projects. As such, this alternative has the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. Mitigation is required, in the form of monitoring during construction, to ensure that should unanticipated discovery of cultural resources or human remains be encountered, and proper measures are implemented to ensure these potential impacts are addressed. Similar to the proposed projects, this alternative also has the potential to impact paleontological resources and mitigation would be required to reduce impacts to a less than significant level. However, compared to the proposed project, this alternative would result in a reduction in impacts to cultural resources and paleontological resources because of a reduced project footprint.

Geology and Soils: Under Alternative 2: Development of DESF Site Only, while the overall project footprint would be reduced, grading and construction of new facilities and solar arrays would still occur. Therefore, this alternative would still be subject to potential impacts related to seismic or liquefaction hazards and unstable or expansive soils. Similar to the projects, this alternative would require the incorporation of mitigation measures identified for the proposed projects to minimize these impacts to a less than significant level. Compared to the proposed projects, this alternative would result in similar geological and soil impacts.

Greenhouse Gas Emissions: Under Alternative 2: Development of DESF Site Only, the overall project footprint would be reduced thereby contributing to reductions in GHG emissions during project construction. However, as a consequence of the reduced size of the projects, this alternative would result in a reduced power production capacity as compared to the proposed projects; hence, the overall benefits

of the projects to global climate change through the creation of renewable energy would also be reduced. This alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Similar to the proposed projects, this alternative would not exceed South Coast Air Quality Management District's (SCAQMD's) threshold of 3,000 tonnes of carbon dioxide equivalents (tCO_{2e}). Compared to the proposed projects, this alternative would contribute to similar and desirable reductions in GHG emissions and associated contribution to global climate change through the production of renewable energy, although to a lesser degree.

Hazards and Hazardous Materials: Similar to the proposed projects, no potential exposure to hazardous materials would occur under this alternative. Impacts associated with wildfire hazards and airport safety would be similar to that described for the proposed projects. Compared to the proposed projects, this alternative would result in similar hazards and hazardous materials impacts.

Hydrology/Water Quality: Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts to hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Similar to the proposed projects, no impacts would result from flooding and facilities will not be placed within floodplains. Compared to the proposed projects, this alternative would result in fewer hydrology/water quality impacts.

Land Use and Planning: Similar to the proposed projects, Alternative 2: Development of DESF Site Only would not divide an established community or result in incompatibilities with adjacent agricultural uses. As with the proposed projects, this alternative would not conflict with any applicable habitat conservation plan or natural community conservation plan. Compared to the proposed projects, land use and planning impacts resulting from this alternative would be similar to those identified for the proposed projects.

Noise: As with the proposed projects, Alternative 2: Development of DESF Site Only would result in significant, but mitigable noise impacts associated with construction activities. Compared to the proposed projects, this alternative would require the operations of the same facilities required for the projects and, therefore, would not reduce any significant noise impacts nor eliminate the need to incorporate mitigation measures. As with the proposed projects, operational impacts associated with this alternative would not expose persons or generate noise levels in excess of applicable noise standards, exposure persons to, or generate excessive groundborne vibration, or expose persons to excessive aircraft noise. Compared to the proposed projects, this alternative would result in a similar impact related to noise for the proposed projects.

Public Services: While the overall project footprint would be slightly smaller, the impacts of this alternative to public services and associated service ratios would be similar. Similar to the proposed projects, this alternative would be conditioned to provide law enforcement and fire service development impact fees. Compared to the proposed projects, this alternative would result in a similar impact related to public services.

Transportation/Traffic: Due to the reduction in the overall project footprint, this alternative would result in a reduced level of vehicle and truck trips as compared to the proposed projects. The increase in vehicular traffic was identified as a less than significant impact for the proposed projects. In this context, Alternative 2: Development of DESF Site Only would not reduce or avoid an impact related to transportation/traffic, and would result in less than significant impacts similar to the proposed projects. As with the proposed projects, this alternative would not impact any applicable plan, ordinance, or policy addressing the performance of the circulation system, conflict with an applicable congestion management program, change air traffic patterns, substantially increase hazards due to a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Compared to the proposed projects, this alternative would result in a similar impact related to transportation/traffic.

Utilities: Similar to the proposed projects, Alternative 2: Development of DESF Site Only would not require the expansion or extension of existing utilities. This alternative would still require water for dust suppression and solar panel washing, but at a reduced amount. No significant utilities impact was

identified with implementation of the proposed projects. In this context, Alternative 2: Development of DESF Site Only would not reduce or avoid an impact related to utilities, and would result in less than significant impacts similar to the proposed projects.

Conclusion: Implementation of Alternative 2: Development of DESF Site Only would result in reduced impacts for the following environmental issues areas as compared to the proposed projects: agriculture, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality. This alternative would not result in any greater environmental impacts when compared to the proposed projects.

Comparison of Alternative 2: Development of Dixieland East Solar Farm Site Only

Alternative 2: Development of DESF Site Only would meet most of the basic objectives of the proposed projects and should remain under consideration. However, this alternative would make it more difficult to achieve the overall objective of providing a total of five megawatts of renewable solar energy, because the 3 MW DWSF Project would not be constructed.

8.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 8-1 provides a qualitative comparison of the impacts for each alternative compared to the proposed projects. As noted in Table 8-1, the No Project/No Development Alternative would be considered the environmentally superior alternative, since it would eliminate all of the significant impacts identified for the projects. However, CEQA Guidelines Section 15126.6(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." The environmentally superior alternative would be Alternative 2: Development of DESF Site Only because it would reduce impacts for the following environmental issues areas as compared to the proposed projects agriculture, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality.

TABLE 8-1. COMPARISON OF ALTERNATIVE IMPACTS TO PROPOSED PROJECT

Environmental Issue Area	Proposed Project	Alternative 1 - No Project/ No Development	Alternative 2 - Development of DESF Site Only
Aesthetics	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Agriculture	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact
Air Quality	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Biological Resources	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact (avoid)
Cultural Resources	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level of significance
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Less impact
Geology and Soils	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact (avoid)	Comparison to Projects: Similar impact
Greenhouse Gas Emissions	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Less impact during construction. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced

Environmental Issue Area	Proposed Project	Alternative 1 - No Project/ No Development	Alternative 2 - Development of DESF Site Only
Hazards and Hazardous Materials	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Hydrology/ Water Quality	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects Less impact	Comparison to Projects: Less impact
Land Use/Planning	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Noise	Mitigated to below a level less than significant	CEQA Significance: No impact	CEQA Significance: Mitigated to below a level less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar impact
Public Services	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar Impact
Transportation/ Traffic	Less than significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects: Similar Impact
Utilities	Less than Significant	CEQA Significance: No impact	CEQA Significance: Less than significant
		Comparison to Projects: Less impact	Comparison to Projects Similar Impact

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10.0 EIR PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

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This Environmental Impact Report (EIR) was prepared for the County of Imperial by HDR Engineering, Inc., at 8690 Balboa Avenue, Suite 200, San Diego, CA 92123. The following professionals participated in its preparation:

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Initial Study and NOP for:

SEPV Dixieland East and West Solar Projects:

SEPV Dixieland East CUP 15-0006 SEPV Dixieland West CUP 15-0005



Prepared By:

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SECTION 1 INTRODUCTION

A. PURPOSE

This document is a \square policy-level; \boxtimes project level Initial Study for evaluation of potential environmental impacts resulting with the proposed SEPV Dixieland East and West Projects.

B. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) REQUIREMENTS AND THE IMPERIAL COUNTY'S RULES AND REGULATIONS FOR IMPLEMENTING CEQA

As defined by Section 15063 of the State California Environmental Quality Act (CEQA) Guidelines and Section 7 of the County's Rules and Regulations for Implementing CEQA, an **Initial Study** is prepared primarily to provide the Lead Agency with information to use as the basis for determining whether an Environmental Impact Report (EIR), Negative Declaration, or Mitigated Negative Declaration would be appropriate for providing the necessary environmental documentation and clearance for any proposed project.

According to Section 15065, an **EIR** is deemed appropriate for a particular proposal if the following conditions occur:

- The proposal has the potential to substantially degrade quality of the environment.
- The proposal has the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.
- The proposal has possible environmental effects that are individually limited but cumulatively considerable.
- The proposal could cause direct or indirect adverse effects on human beings.

	ding to Section 15070(a), a Negative Declaration is deemed appropriate if the proposal would not in any significant effect on the environment.
that	ding to Section 15070(b), a Mitigated Negative Declaration is deemed appropriate if it is determined ough a proposal could result in a significant effect, mitigation measures are available to reduce these cant effects to insignificant levels.

This Initial Study has determined that the proposed applications will result in potentially significant environmental impacts and therefore, an Environmental Impact Report is deemed as the appropriate document to provide necessary environmental evaluations and clearance for the proposed project.

This Initial Study and Notice of Preparation are prepared in conformance with the California Environmental Quality Act of 1970, as amended (Public Resources Code, Section 21000 et. seq.); Section 15070 of the State CEQA Guidelines & County of Imperial's Rules and Regulations to Implement California Environmental Quality Act of 1970, as amended (California Code of Regulations, Title 14, Chapter 3, Section 15000, et. seq.); applicable requirements of the County of Imperial; and the regulations, requirements, and procedures of any other responsible public agency or an agency with jurisdiction by law.

Pursuant to the County of Imperial's <u>Rules and Regulations to Implement CEQA</u>, depending on the project scope, the County of Imperial Board of Supervisors, Planning Commission and/or Planning Director is designated the Lead Agency, in accordance with Section 15050 of the CEQA Guidelines. The Lead Agency is the public agency which has the principal responsibility for approving the necessary environmental clearances and analyses for any project in the County.

C. INTENDED USES OF INITIAL STUDY AND NOTICE OF PREPARATION

This Initial Study and Notice of Preparation are informational documents which are intended to inform County of Imperial decision makers, other responsible or interested agencies, and the general public of potential environmental effects of the proposed applications. The environmental review process has been established to enable public agencies to evaluate environmental consequences and to examine and implement methods of eliminating or reducing any potentially adverse impacts. While CEQA requires that consideration be given to avoiding environmental damage, the Lead Agency and other responsible public agencies must balance adverse environmental effects against other public objectives, including economic and social goals.

The Initial Study and Notice of Preparation, prepared for the project will be circulated for a period of 30 days for public and agency review and comments.

D. CONTENTS OF INITIAL STUDY & NOTICE OF PREPARATION

This Initial Study is organized to facilitate a basic understanding of the existing setting and environmental implications of the proposed applications.

SECTION 1

I. INTRODUCTION presents an introduction to the entire report. This section discusses the environmental process, scope of environmental review, and incorporation by reference documents.

SECTION 2

II. ENVIRONMENTAL CHECKLIST FORM contains the County's Environmental Checklist Form. The checklist form presents results of the environmental evaluation for the proposed applications and those issue areas that would have either a significant impact, potentially significant impact, or no impact.

PROJECT SUMMARY, LOCATION AND ENVIRONMENTAL SETTINGS describes the proposed project entitlements and required applications. A description of discretionary approvals and permits required for project implementation is also included. It also identifies the location of the project and a general description of the surrounding environmental settings.

ENVIRONMENTAL ANALYSIS evaluates each response provided in the environmental checklist form. Each response checked in the checklist form is discussed and supported with sufficient data and analysis as necessary. As appropriate, each response discussion describes and identifies specific impacts anticipated with project implementation.

SECTION 3

III. MANDATORY FINDINGS presents Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.

E. SCOPE OF ENVIRONMENTAL ANALYSIS

For evaluation of environmental impacts, each question from the Environmental Checklist Form is summarized and responses are provided according to the analysis undertaken as part of the Initial Study. Impacts and effects will be evaluated and quantified, when appropriate. To each question, there are four possible responses, including:

- 1. **No Impact:** A "No Impact" response is adequately supported if the impact simply does not apply to the proposed applications.
- 2. **Less Than Significant Impact**: The proposed applications will have the potential to impact the environment. These impacts, however, will be less than significant; no additional analysis is required.
- 3. **Less Than Significant With Mitigation Incorporated:** This applies where incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact".
- 4. **Potentially Significant Impact:** The proposed applications could have impacts that are considered significant. Additional analyses and possibly an EIR could be required to identify mitigation measures that could reduce these impacts to less than significant levels.

F. POLICY-LEVEL or PROJECT LEVEL ENVIRONMENTAL ANALYSIS

This Initial Study will be conducted under a \square policy-level, \boxtimes project level analysis.

Regarding mitigation measures, it is not the intent of this document to "overlap" or restate conditions of approval that are commonly established for future known projects or the proposed applications. Additionally, those other standard requirements and regulations that any development must comply with, that are outside the County's jurisdiction, are also not considered mitigation measures and therefore, will not be identified in this document.

G. TIERED DOCUMENTS AND INCORPORATION BY REFERENCE

Information, findings, and conclusions contained in this document are based on incorporation by reference of tiered documentation, which are discussed in the following section.

1. Tiered Documents

As permitted in Section 15152(a) of the CEQA Guidelines, information and discussions from other documents can be included into this document. Tiering is defined as follows:

"Tiering refers to using the analysis of general matters contained in a broader EIR (such as the one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Tiering also allows this document to comply with Section 15152(b) of the CEQA Guidelines, which discourages redundant analyses, as follows:

"Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including the general plans, zoning changes, and development projects. This approach can eliminate repetitive discussion of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration."

Further, Section 15152(d) of the CEQA Guidelines states:

"Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:

- (1) Were not examined as significant effects on the environment in the prior EIR; or
- (2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means."

2. Incorporation By Reference

Incorporation by reference is a procedure for reducing the size of EIRs/MND and is most appropriate for including long, descriptive, or technical materials that provide general background information, but do not contribute directly to the specific analysis of the project itself. This procedure is particularly useful when an EIR or Negative Declaration relies on a broadly-drafted EIR for its evaluation of cumulative impacts of related projects (*Las Virgenes Homeowners Federation v. County of Los Angeles* [1986, 177 Ca.3d 300]). If an EIR or Negative Declaration relies on information from a supporting study that is available to the public, the EIR or Negative Declaration cannot be deemed unsupported by evidence or analysis (*San Francisco Ecology Center v. City and County of San Francisco* [1975, 48 Ca.3d 584, 595]).

When an EIR or Negative Declaration incorporates a document by reference, the incorporation must comply with Section 15150 of the CEQA Guidelines as follows:

- The incorporated document must be available to the public or be a matter of public record (CEQA Guidelines Section 15150[a]). The General Plan EIR is available, along with this document, at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (442) 265-1735.
- This document must be available for inspection by the public at an office of the lead agency (CEQA Guidelines Section 15150[b]). These documents are available at the County of Imperial Planning & Development Services Department, 801 Main Street, El Centro, CA 92243 Ph. (760) 482-4236.
- These documents must summarize the portion of the document being incorporated by reference or briefly describe information that cannot be summarized. Furthermore, these documents must describe the relationship between the incorporated information and the analysis in the tiered documents (CEQA Guidelines Section 15150[c]). As discussed above, the tiered EIRs address the entire project site and provide background and inventory information and data which apply to the project site. Incorporated information and/or data will be cited in the appropriate sections.
- These documents must include the State identification number of the incorporated documents (CEQA Guidelines Section 15150[d]). The State Clearinghouse Number for the 'County of Imperial General Plan EIR is SCH #93011023.
- The material to be incorporated in this document will include general background information (CEQA Guidelines Section 15150[f]).

SECTION II. ENVIRONMENTAL CHECKLIST

- 1. Project Title: SEPV Dixieland East and West Solar Projects
- Lead Agency: Imperial County Planning & Development Services Department
- 3. Contact person and phone number: David Black, Planner IV, 442-265-1746
- 4. Address: 801 Main Street, El Centro CA, 92243
- 5. **E-mail**: DavidBlack@co.imperial.ca.us
- 6. **Project location**: The proposed SEPV Dixieland East and West Projects are located in the Dixieland area of an unincorporated portion of the County of Imperial, California. The sites are located on privately owned, undeveloped land encompassing approximately 63 acres. The Projects are generally located north of Evan Hewes Highway and adjacent to Brown Road and Carriso Road, respectively, in the vicinity of the existing Dixieland substation.
- 7. **Project sponsor's name and address**: SEPV Imperial, LLC; 11726 San Vicente Blvd, Suite 414, Los Angeles, CA 90049
- 8. General Plan designation: Agriculture
- 9. **Zoning**: A-2 (General Agriculture)
- 10. **Description of project**: The SEPV Dixieland East and West Solar Projects involve the construction of two utility-scale Photovoltaic (PV) solar facilities, on two sites encompassing approximately 63 acres of land. Each Project would include a ground mounted photovoltaic solar power generating system, supporting structures, electronic/electrical equipment, access roads and fencing. Partial road abandonments are also proposed. Each Project would be interconnected to the Imperial Irrigation District (IID) electrical distribution system at an existing IID 12kV distribution line. Each Project is proposed under a separate Conditional Use Permit (CUP). Project Applicant: SEPV Imperial, LLC.

SEPV Imperial East Solar Farm (CUP 15-0006): The solar array field will encompass a total of 27 acres on four parcels of land (Assessor Parcel Numbers [APNs]: 051-047-001, 051-047-002, 051-035-001, and 051-035-002). This particular project site is anticipated to generate up to 2 megawatts (MW) of energy.

SEPV Imperial West Solar Farm (CUP 15-0005): The solar array field will encompass a total of 36.28 acres on one parcel of land (APN: 034-390-026). This particular project site is anticipated to generate up to 3 MW of energy.

11. **Surrounding land uses and setting**: Briefly describe the project's surroundings:

Undeveloped lands surround each of the sites. The SEPV Dixieland East is located immediately west of the Westside Main canal, and is in the vicinity of the existing Dixieland substation. The Dixieland West is also located in close proximity to the existing Dixieland substation.

- 12. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):
 - Caltrans Encroachment Permit
 - Imperial Irrigation District Right of Way Permit

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

			below would be potentiall act" as indicated by the ch	•	ed by this project, involving at least one impact on the following pages.
\boxtimes	Aesthetics	\boxtimes	Agriculture and Forestry Resources	\boxtimes	Air Quality
\boxtimes	Biological Resources	\boxtimes	Cultural Resources	\boxtimes	Geology /Soils
\boxtimes	Greenhouse Gas Emissions	\boxtimes	Hazards & Hazardous Materia	s 🖂	Hydrology / Water Quality
\boxtimes	Land Use / Planning		Mineral Resources		Noise
	Population / Housing	\boxtimes	Public Services	\boxtimes	Recreation
\boxtimes	Transportation/Traffic	\boxtimes	Utilities / Service Systems	\boxtimes	Mandatory Findings of Significance
			VALUATION COI		TEE (EEC) DETERMINATION nittee has:
	ound that the proposed <u>ARATION</u> will be prepa		ect COULD NOT have a s	significa	nt effect on the environment, and a <u>NEGATIVE</u>
signif	icant effect in this case	beca		ject hav	ant effect on the environment, there will not be a we been made by or agreed to by the project ed.
	ound that the proposed CT REPORT is required		ct MAY have a significan	t effect	on the environment, and an <u>ENVIRONMENTAL</u>
mitiga pursu analy	ated" impact on the enviruant to applicable legal	onme standa ched	nt, but at least one effect ards, and 2) has been ac sheets. An ENVIRONMEN	1) has b ddresse	nificant impact" or "potentially significant unless been adequately analyzed in an earlier document d by mitigation measures based on the earlier IPACT REPORT is required, but it must analyze
poter pursu DECI	itially significant effects lant to applicable standa	(a) ha Irds, a	ave been analyzed adequind (b) have been avoided	uately ir I or miti	ificant effect on the environment, because all n an earlier EIR or NEGATIVE DECLARATION gated pursuant to that earlier EIR or NEGATIVE e imposed upon the proposed project, nothing
CALI	FORNIA DEPARTMENT	OF F	ISH AND GAME DE MINI	MIS IMI	PACT FINDING: Yes No
	EEC VOTES PUBLIC WORKS ENVIRONMENTA OFFICE EMERGI APCD AG SHERIFF DEPAR ICPDS	AL HEA ENCY	SERVICES	NO 	ABSENT

Date:

Jim Minnick, Interim Director

PROJECT SUMMARY

A. Project Location:

The proposed SEPV Dixieland East and West Projects are located in the Dixieland area of an unincorporated portion of the County of Imperial, California. The sites are located on privately owned, undeveloped land encompassing approximately 63 acres. The Projects are generally located north of Evan Hewes Highway and adjacent to Brown Road and Carriso Road, respectively, in the vicinity of the existing Dixieland substation.

B. Project Summary:

The SEPV Dixieland East and West Solar Projects involve the construction of two utility-scale Photovoltaic (PV) solar facilities, on two sites encompassing approximately 63 acres of land. Each Project would include a ground mounted photovoltaic solar power generating system, supporting structures, electronic/electrical equipment, access roads and fencing. Partial road abandonments are also proposed. Each Project would be interconnected to the Imperial Irrigation District (IID) electrical distribution system at an existing IID 12kV distribution line. Each Project is proposed under a separate Conditional Use Permit (CUP). Project Applicant: SEPV Imperial, LLC.

SEPV Imperial East Solar Farm (CUP 15-0006): The solar array field will encompass a total of 27 acres on four parcels of land (Assessor Parcel Numbers [APNs]: 051-047-001, 051-047-002, 051-035-001, and 051-035-002). This particular project site is anticipated to generate up to 2 megawatts (MW) of energy.

SEPV Imperial West Solar Farm (CUP 15-0005): The solar array field will encompass a total of 36.28 acres on one parcel of land (APN: 034-390-026). This particular project site is anticipated to generate up to 3 MW of energy.

The EIR will address the potential environmental effects associated with the proposed Projects. Although this Initial Study evaluates the significance of environmental issue areas for the Project as a whole, the two Projects (SEPV Dixieland East and SEPV Dixieland West) as described above may be evaluated separately within each section of the EIR depending on the environmental issue area and potential impacts. Project phasing within the Projects will also be discussed in the EIR.

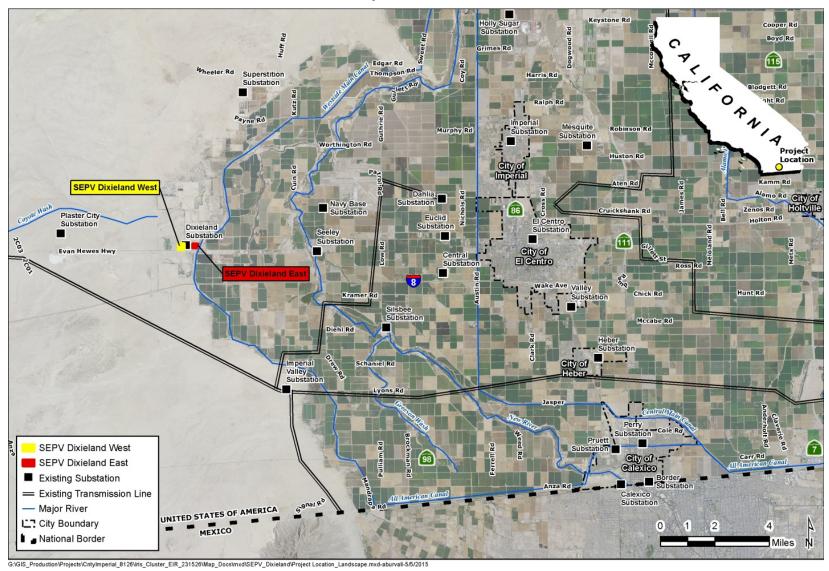
C. Environmental Setting:

The Projects are located in a rural part of Imperial County, in the Dixieland area. The surrounding land uses consists primarily of vacant land. The sites are located adjacent to the Westside Main canal (SEPV Dixieland East) and are in the vicinity of the existing Dixieland substation. There are no established residential neighborhoods within the general vicinity of the Projects; however, the Imperial Lakes community is located approximately 0.30 miles to the west of the SEPV Dixieland West site.

D. General Plan Consistency:

The proposed Projects are located within an unincorporated area of the County. The existing General Plan land use designation is "Agriculture." The project sites are currently zoned A-2 (General Agriculture). Construction of a solar facility would be allowed within the existing zoning under a Conditional Use Permit.

Figure 1
Project Location



EVALUATION OF ENVIRONMENTAL IMPACTS:

- A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significance.

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
I.	A	ESTHETICS				
Would	d the p	project:				
a)		e a substantial adverse effect on a scenic or scenic highway?				
b)	but I	stantially damage scenic resources, including, imited to, trees, rock outcroppings, and historic lings within a state scenic highway?				
c)		stantially degrade the existing visual character uality of the site and its surroundings?				
d)	whic	tte a new source of substantial light or glare h would adversely affect day or nighttime views e area?	S			
	a,b)	The Projects involve the construction of independent Project sites, which would i system, supporting structures, electronic proposed Projects are not located near ar nor would they damage or degrade an identified for this issue area.	nclude a grou delectrical equ ny scenic vista	ind mounted PV s ipment, access r i or officially design	solar power g oads and fend gnated scenic	enerating cing. The highway,
	c)	Although the Projects are not located no Projects may result in a change to the significant impact is identified, and this issues	look and ru	ral character of t	the area. A p	
	d)	Minimal lighting is required for project op All lighting would be directed downward or on the desired areas. The solar panels will is not anticipated that they would result is undeveloped area of Imperial County. Immediately adjacent to the project area approximately 0.30 miles to the west of S are not expected to create a new source views, this issue will be analyzed further it identified for this issue area.	r at a narrow b be constructe in creating a g There are no a; however, th EPV Dixielanc of substantial	eam angle, in orded of non-reflective glare. The Project established reside Imperial Lakes West. Although light or glare affe	er to focus all a materials; the sare located dential neight community is the proposed ecting day or	light only erefore, it in a rural borhoods located Projects nighttime
II.	A	GRICULTURE AND FOREST RESOURC	ES			
refer Depa deteri agend the si Asses	to the rtmen mining cies mate's smen	ing whether impacts to agricultural resources a California Agricultural Land Evaluation and Store to Conservation as an optional model to up whether impacts to forest resources, including refer to information compiled by the Californiventory of forest land, including the Forest project; and forest carbon measurement mair Resources BoardWould the project:	Site Assessmentse in assessing timberland, ornia Department and Range A	nt Model (1997) pr ng impacts on agri are significant en nt of Forestry and Assessment Project	repared by the culture and far vironmental eff Fire Protection and the Fore	California mland. In ects, lead regarding st Legacy
a)	Farm shov Farm	vert Prime Farmland, Unique Farmland, or nland of Statewide Importance (Farmland), as on the maps prepared pursuant to the nland Mapping and Monitoring Program of the ornia Resources Agency, to non-agricultura	e e			

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
b)		lict with existing zoning for agricultural use, or liamson Act contract?				
c)	of, for secti Reso Timb	lict with existing zoning for, or cause rezoning prest land (as defined in Public Resources Code on 12220(g)), timberland (as defined by Public Durces Code section 4526), or timberland zone perland Production (as defined by Government es section 51104(g))?	c d			
d)		alt in the loss of forest land or conversion of at land to non-forest use?				\boxtimes
e)	whic conv	ve other changes in the existing environment h, due to their location or nature, could result in ersion of Farmland, to non-agricultural use or ersion of forest land to non-forest use?				
	a,e)	According to the farmland maps prepared the Project sites do not contain prime farm no significant impact would result from Statewide Importance to non-agricultural us	nland or farml the conversion	and of statewide	importance. T	herefore,
	b)	The land is currently zoned A-2 (General "Agriculture." Solar energy facilities are all Permit. Because the sites are located on la analyzed in further detail. A Land Evaluat Projects and this issue will be addressed in	owed within the nds designate tion Site Asse	hese zones subje d for agricultural	ct to a Condit uses, this iss	ional Use ue will be
	c)	There are no existing forest lands, timbe either on-site or in the immediate vicinity rezoning. Therefore, no impact is identified	y that would	conflict with exi		
	d)	There are no existing forest lands either proposed Projects would not result in the I forest use. Therefore, no impact is identified	oss of forest I	and or conversio		
III.	A	R QUALITY				
		lable, the significance criteria established by the be relied upon to the following determinations.			nt or air pollutio	n control
a)		lict with or obstruct implementation of the cable air quality plan?	\boxtimes			
b)	subs	ite any air quality standard or contribute tantially to an existing or projected air quality tion?				
c)	of ardis no state release	ult in a cumulatively considerable net increase by criteria pollutant for which the project region on-attainment under an applicable federal or ambient air quality standard (including using emissions which exceed quantitative scholds for ozone precursors)?				
d)		ose sensitive receptors to substantial pollutants entrations?				

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
e)		ate objectionable odors affecting a substantial nber of people?				\boxtimes
	a)	The Projects are located within the jurisdic (ICAPCD) in the Salton Sea Air Basin. Commissions of dust, fumes, equipment exhat the ICAPCD Rules and Regulations. No Projects; however, temporary construction air quality impact.	construction of ust, and other a stationary sour	the Projects w air contaminants ce emissions a	ould create to that may con re proposed	emporary Iflict with from the
	b)	Currently, the Salton Sea Air Basin is either air pollutant standards with the exception matter less than 10 microns in diameter). A from the adjacent South Coast Air Basin (I and Riverside County) and from Mexicali (conditions in the Salton Sea Air Basin. A parea. An air quality impacts study that wi impacts will be prepared and included in the	of O ₃ (8-hour) Air pollutants tra Los Angeles, Sa Mexico) substan potentially signiful address the p	and PM ₁₀ (total ansported into th an Bernardino C ntially contribute ficant impact is i	suspended page Salton Sea and ounty, Orange to the non-addentified for the suspension of the suspensio	articulate Air Basin County, ttainment his issue
	c)	The proposed construction phases of the lincrease of one or more criteria pollutants for which the project region is in non-atta quality standards. Thus, a potentially sign quality impact study that will address the prepared and included in the EIR analysis.	as a result of print in a single in a sing	point, and non-p pplicable federa is identified for	oint source er I and state am this issue are	nissions, nbient air a. An air
	d)	The Projects are located in a rural agricult residential neighborhoods within the im community is located approximately 0.30 m no schools, hospitals or senior homes with Although the Projects would not expose a spollutant concentrations, this issue will be a	mediate project niles west of the thin or adjacen significant numb	et area; howeve e SEPV Dixielan t to the bounda per of sensitive r	er, the Imperi d West site. Try of the Projectors to su	al Lakes There are ect sites. Ibstantial
	e)	The proposed Projects include the installar generate objectionable odors as currently odors. No impact is identified for this issue	developed sol			
IV.	E	BIOLOGICAL RESOURCES				
Would	the	project:				
a)	thro ider stat regi	ve a substantial adverse effect, either directly or bugh habitat modifications, on any species ntified as a candidate, sensitive, or specia us species in local or regional plans, policies, oulations, or by the California Department of Fish I Game or U.S. Fish and Wildlife Service?	l r			
b)	hab ider regi	ve a substantial adverse effect on any riparian itat or other sensitive natural community ntified in local or regional plans, policies ulations, or by the California Department of Fish I Game or U.S. Fish and Wildlife Service?	,			

		Potentially Significant Impact (PSI)	Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impaci (NI)
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	, t			
d)	Interfere substantially with the movement of any 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?)			
e)	Conflict with any local polices or ordinances	\boxtimes			
Prote	ecting biological resource, such as a tree pre	eservation po	licy or ordinanc	e?	
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local regional, or state habitat conservation plan?				

Potentially

a,b,d,e)

The project site is located on undeveloped land and, although previously-disturbed, has the potential to support native habitats and/or sensitive species. Potential species that may occur on the project sites include the flat-tailed horned lizard and the western burrowing owl. The Project sites have the potential to be used as burrowing owl foraging habitat. Burrowing owls and burrows are commonly found along canals and drains. Although there are no Imperial Irrigation District (IID) canals or drainage structures located within the Project sites, IID Right-of-Way, access roads, canal and other drainages are located immediately adjacent to the SEPV Dixieland East Project site. Thus, a potentially significant impact is identified for this issue area. A biological resources technical study that will address the proposed Projects' potential impacts on biological resources will be prepared and included in the EIR analysis.

- c) The Projects are located in an upland area and are not traversed by any drainages or washes. No IID canal or drain structures will be removed or relocated, no washes are found within the Project sites, and impacts to the adjacent Westside Main canal are not proposed; therefore, there will be no impact to riparian habitat or sensitive natural communities; and U.S. Army Corps of Engineers (USACE), CDFW, or Regional Water Quality Control Board (RWQCB) resources are not anticipated to be affected.
- f) The Projects are not located in a Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. No impact is identified.

V. Would a)	CULTURAL RESOURCES				
۵)	d the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				
d)	Disturb any human remains, including those interred outside of formal cemeteries?				
	County and have been discovered during contypically impacted when earthwork activition deposits (formations) with buried fossils. It located on the Project sites. A cultural resolution potential impacts on historic and prehistoric analysis. Although unlikely, there is also unearthed during earthwork activities. A prissues areas and they will be addressed in the	ies such as t is not know urces report c resources o a potentia potentially si	s mass excavation if any paleon that will address will be prepared I for unknown	on cut into g tological resou the proposed and included i human remaii	eological urces are Projects' n the EIR ns to be
VI.	GEOLOGY AND SOILS				
Would	d the project:				
a)	Expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving:				
	 Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? 				
	2) Strong Seismic ground shaking?	\boxtimes			
					_
	3) Seismic-related ground failure, including liquefaction and seiche/tsunami?		Ц		

		Potentially Significant Impact (PSI)	Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence liquefaction or collapse?	 e			
d)	Be located on expansive soil, as defined in the latest Uniform Building Code, creating substantinisk to life or property?	⊠ al			
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				

Potentially

- a1) The Projects do not lie within a State of California, Alquist-Priolo Earthquake Fault Zone. Surface fault rupture at the Project sites is considered to be low. No impact is identified.
- a2) The primary seismic hazard at the Project sites is the potential for strong ground shaking during earthquakes along the Superstition Mountain, Imperial, and Laguna Salada faults. This is identified as potentially significant and will be evaluated in the EIR.
- a3,c) Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:

- (1) The soil must be saturated (relatively shallow groundwater);
- (2) The soil must be loosely packed (low to medium relative density);
- (3) The soil must be relatively cohesionless (not clayey); and
- (4) Groundshaking of sufficient intensity must occur to function as a trigger mechanism.

All of these conditions may exist to some degree at the sites. Thus, the impact is identified as potentially significant. This issue will be evaluated in the EIR.

However, the sites do not lie near any large bodies of water, so the threat of tsunami, seiches, or other seismically-induced flooding is considered unlikely. No impact is identified for these issue areas.

- The hazard of landsliding is unlikely due to the relatively planar topography of the Projects sites.

 No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during our site investigation. No impact is identified.
- Soil erosion can result during construction as grading and construction can loosen surface soils and make soils susceptible to wind and water movement across the surface. Impacts are not considered significant since erosion would be controlled on-site in accordance with County standards including preparation, review and approval of a grading plan by the County Engineer. Implementation of County standards would reduce the potential impacts to below a level of significance.

Impact Incorporated **Impact** Impact (PSI) (PSUMI) (LTSI) (NI) d) Near surface soils within the Project sites will need to be identified to determine whether they consists of soils having a high to very high expansion potential. This is a potentially significant impact. This issue will be analyzed in the EIR. Near surface soils within the Project sites will need to be identified to determine whether the e) soils have a moderate infiltration rate. Therefore, a potentially significant impact has been identified for this issue area, and this issue will be addressed in the EIR. VII. **GREENHOUSE GAS EMISSIONS** Would the project: a) Generate greenhouse gas emissions, either directly \boxtimes or indirectly, that may have a significant impact on the environment? \boxtimes Conflict with an applicable plan or policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? The Projects have the potential to generate greenhouse gas emissions during construction, in addition to construction worker trips to and from the Project sites. A potentially significant impact is identified and will be evaluated in the EIR. In the long-term, the Projects are expected to provide a benefit with respect to reduction of greenhouse gas emissions. A Greenhouse Gas Emissions/Climate Change technical report will be prepared for the proposed Projects and this issue will be addressed in the EIR. VIII. HAZARDS AND HAZARDOUS MATERIALS Would the project: \boxtimes Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? b) Create a significant hazard to the public or the \boxtimes environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment? \boxtimes Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? \boxtimes Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result. would it create a significant hazard to the public or the environment?

Potentially Significant

Unless

Mitigation

Less Than

Significant

No

Potentially

Significant

For a project located within an airport land use plan

residing or working in the project area?

or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people \boxtimes

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
f)	would	project within the vicinity of a private airstrip, I the project result in a safety hazard for peopling or working in the project area?	e			
g)	with	ir implementation of or physically interfere an adopted emergency response plan o gency evacuation plan?	or			
h)	loss, where	se people or structures to a significant risk of injury or death involving wildland fires, including wildlands are adjacent to urbanized areas ce residences are intermixed with wildlands?				
	a,b)	No Operations and Maintenance facility operation of the projects will be conduproject may result in the potential to have materials are proposed to be stored on the site would be limited to small amounts of for maintenance. The applicant will be requestrictions, which regulate and control have wastes would be transported off-site for restrictions and laws governing the discoperation of the Projects. Disposal of ha However, this issue will be addressed in the	cted remotely andle hazard he project site feveryday use uired to comp hazardous may disposal acceposal of hazardous waste	 Regular, routing materials; hearth materials; hearth materials Restrict materials; hearth materials Restrict materials<	ne maintenand owever, no has materials had ommon chemic and County Con-site. Such hable State and uring construct	ce of the azardous ndled on-cals used Ordinance azardous d County
	c)	The Projects are not located within one impact is identified for this issue area.	-quarter mile	of an existing o	r proposed so	chool. No
	d)	The Projects sites are not listed as a haz Section 65962.5. No impact is identified fo			t to Governme	ent Code,
	e,f)	The Projects are not located within two mare anticipated for these issue areas.	iles of a public	c airport or a priva	ate airstrip. No	o impacts
	g)	The Projects are not expected to imparadopted emergency response plan or eme to prepare a street improvement plan f emergency access points and safe vehic followed to minimize flood, seismic, and issue area.	rgency evacu or the Projec ular travel. In	ation plan. The ap t sites that will addition, local bo	pplicant will be include provi uilding codes	required sions for would be
	h)	According to the Imperial County Natu California Department of Forestry and Fire a Moderate Severity Fire Hazard area f activities may result in an increased need This impact will be evaluated in the EIR un	Protection (2 for wildland f d for fire-fight	2000), the Project fire. Also, cons ting personnel ar	sites may be I truction and	ocated in operation
IX.	HY	DROLOGY AND WATER QUALITY				
Would	d the p	roject:				
a)		te any water quality standards or waste arge requirements?				
b)	subst	tantially deplete groundwater supplies or interfer antially with groundwater recharge such that would be a net deficit in aquifer volume or a				

			Potentially Significant Impact (PSI)	Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
	the p would existin	ing of the local groundwater table level (e.g., roduction rate of pre-existing nearby wells drop to a level which would not support and uses or planned uses for which ts have been granted)?				
c)	the si	antially alter the existing drainage pattern of te or area, including through the alteration of ourse of a stream or river, in a manner which I result in substantial erosion or siltation on- or e?				
d)	the si the c increa	antially alter the existing drainage patterns of te or area, including through the alteration of ourse of a stream or river, or substantially ase the rate or amount of surface runoff in a er which would result in flooding on- or off-				
e)	excee storm	e or contribute runoff water, which would d the capacity of existing or planned water drainage systems or provide substantial onal sources of polluted runoff?				
f)	Other	wise substantially degrade water quality?	\boxtimes			
g)	as ma Insura	housing within a 100-year flood hazard area apped on a Flood Hazard Boundary or Flood ance Rate Map or other flood hazard eation map?				
h)		within a 100-year flood hazard area structures would impede or redirect the flood flows?				
i)	loss	se people or structures to a significant risk of injury or death involving flooding, including ng as a result of the failure of a levee or dam?				
j)	Inund	ation by seiche, tsunami, or mudflow?				\boxtimes
	a,f)	The Projects have the potential to synthetic/organic chemicals). No waste proposed Project sites. Potentially significant waste discharge requirements will be added.	discharge recant impacts I	quirements have have been identif	been issued	for the
	b)	During construction, potable water would needs, while construction water would be suppression. Depending on whether munuse may also be trucked to the site. Be ground, they are not considered "hardscareas, as they do not require a substantial mounting foundation would not impede significant.	be brought to icipal water is ecause the so ape", such as il amount of in	the site for soil available for use lar panels will b roads, building f pervious materia	conditioning e, water for op e pole-mount oundations, o al. The panels	and dust perational ed above r parking and their
	c,d,e)	The proposed Projects are not anticipate runoff water from water use involving so through the ground, as a majority of the proposed Projects would not substantial	olar panel was surfaces on th	shing. Water will ne project site wi	continue to	percolate ious. The

Potentially

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
		substantially increase the rate of runoff, capacity of existing or planned stormwar removed or relocated and no washes we impact is identified for these issue areas.	er drainage s	ystems. No IID d	rains or cana	ls will be
	g,h,i)	According to the Federal Emergency Mar (FIRM), the Projects sites are not located in identified for floodplains. The Project site a drainage report and discussed in the EIR	n flood hazard s' potential dra	zones. A less th	an significant	impact is
	j)	The Projects do not lie near any large be unlikely. The project site and surrounding is less than significant.				
Х.	LA	ND USE AND PLANNING				
Woul	d the p	roject:				
a)	Physi	cally divide an established community?				\boxtimes
b)	regula projec specif ordina	act with any applicable land use plan, policy, or ation of an agency with jurisdiction over the ct (include, but not limited to the general plan, fic plan, local coastal program, or zoning ance) adopted for the purpose of avoiding or ating an environmental effect?				
c)		ct with any applicable habitat conservation or natural community conservation plan?				
	a)	The proposed Projects are located in a rusurrounded by vacant lands planned for a				
	b)	The Project sites are currently designate identifies agricultural land as a form of of the land is currently zoned A-2 (General Athese zones subject to a Conditional Use under the zoning, the proposed Projects recreation. This may result in a potentially EIR.	pen space that Agriculture). So Permit. Altho would remove	at could be used Solar energy facil ough the propose oe the land from	as passive re ities are allow ed Projects are public use as	ecreation. ed within e allowed s passive
	c)	The Project sites are not located in a HCP	or NCCP. Thus	s no impact is ide	ntified.	
XI.	МІ	NERAL RESOURCES				
Woul	d the p	roject:				
a)	resou	t in the loss of availability of a known mineral rce that would be of value to the region and sidents of the state?				

The Project sites are not used for mineral resource production. According to the Conservation and Open Space Element of the County of Imperial General Plan, no known mineral resources

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

 \boxtimes

	Potentially Significant		
Potentially	Unless	Less Than	
Significant	Mitigation	Significant	No
Impact	Incorporated	Impact	Impact
(PSI)	(PSUMI)	(LTSI)	(NI)

occur within the Project sites nor do the Project sites contain mapped mineral resources. As such, the proposed Projects would not adversely affect the availability of any known mineral

		resources within the Project sites. No impac	t is identified.			
XII.	NC	DISE				
Would	the p	roject result in:				
a)	levels local	sure of persons to or generation of noise in excess of standards established in the general plan or noise ordinance, or applicable ards of other agencies?				
b)		sure of persons to or generation of excessive adborne vibration or groundborne noise levels?			\boxtimes	
c)	levels	estantial permanent increase in ambient noise in the project vicinity above levels existing ut the project?				
d)	ambie	estantial temporary or periodic increase in ent noise levels in the project vicinity above sexisting without the project?				
e)	or wh two n would	project located within an airport land use plan ere such a plan has not been adopted, within niles of a public airport or public use airport, If the project expose people residing or any in the project area to excessive noise in the project area.				
f)	would	project within the vicinity of a private airstrip, I the project expose people residing or working project area to excessive noise levels?				
	a,c,d)	The Imperial County Code of Ordinances, establishes one-hour average sound le Agricultural/industrial operations are require the general industrial zones. Therefore, the 75 decibels (dB) (averaged over one hour expected to comply with the Noise Element noise, from a single piece of equipment or a when averaged over an eight hour period Construction equipment operation is also through Friday, and 9 a.m. to 5 p.m. Neve ambient noise levels during construction. The Groundborne vibration and groundborne no construction phase of the proposed Pro associated with activities such as blasting or required during project construction. The applicable requirements for long-term opera groundborne vibration and noise to ensur structures to excessive groundborne vibration	evel limits for ed to comply with Projects are requely during any time of the General Formation of and measured limited to the highest will be a size could originally ects. However, or the use of pile Projects would atton, as well	the County's the noise leven ired to maintain the of day. The Plan which state equipment, shall at the nearest ours of 7 a.m. ijects will result addressed in the te from earth maignificant vitorivers, neither be expected with measures tots would not	land use Is prescribed noise levels Projects wo s that constr Il not exceed sensitive rec to 7 p.m., No tin the incre EIR. ovement duri pration is ty of which wo to comply wo o reduce exceed	zones. under below uld be ruction 75 dB, ceptor. londay ase in ng the pically uld be rith all essive
	e,f)	The Projects are not located within two mile	s of a public airp	ort or a private	airstrip. No	further

analysis is warranted.

			Potentially Significant Impact (PSI)	Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
XIII.	PC	PULATION AND HOUSING				
Would	d the p	roject:				
a)	either and b	e substantial population growth in an area, directly (for example, by proposing new home businesses) or indirectly (for example throug sion of roads or other infrastructure)?				
b)	neces	ace substantial numbers of existing housing, sitating the construction of replacement ng elsewhere?	:			
c)		ace substantial numbers of people, necessitating onstruction of replacement housing elsewhere?				
	a,b,c)	The Project sites are currently vacant. D Projects. No full-time employees are recoperated remotely. The proposed Project as the number of employees required Therefore, no impact is identified for popu	quired to oper ts would not a to operate	rate the Projects. result in a substar and maintain the	The Projects ntial populatio	would be n growth,
XIV.	PU	IBLIC SERVICES				
a)	physic new need faciliti signifi maint or ot	d the project result in substantial adverse cal impacts associated with the provision of or physically altered governmental facilities, for new or physically altered governmental es, the construction of which could cause icant environmental impacts, in order to ain acceptable service ratios, response times her performance objectives for any of the eservices:	 			
	1)	Fire protection?	\boxtimes			
	2)	Police protection?	\boxtimes			
	3)	Schools?				\boxtimes
	4)	Parks?				\boxtimes
	5)	Other public facilities?				\boxtimes
	a1)	Fire protection and emergency medical series Department. The proposed Project regulations and requirements of the Imperadherence to prevention measures for with Hazard Disclosure (Fire) Map prepared Protection (2000), the Project sites are local Moderate Fire Hazard Area. However, concreased need for fire-fighting personn impact on fire services from construction evaluated in the EIR.	ts would be rial County Fildland fires. A by the Calificated within, a onstruction a el and faciliti	required to con re Department and According to the I fornia Department and/or adjacent to and operation acti ies in the area. T	mply with all d would be rev mperial Count t of Forestry an area ident vities may res herefore, the	existing iewed for by Natural and Fire ified as a sult in an potential
	a2)	Police protection services in the proposions Sheriff's Department. Although the potent or other security risks. The increase in claw enforcement services. On-site security	tial is low, the	e proposed Projected related traffic cou	cts may attrac ld increase de	t vandals

Potentially

Impact Incorporated **Impact** Impact (PSI) (PSUMI) (LTSI) (NI) the areas surrounding the Project sites during construction and operation, thereby minimizing the need for police surveillance. However, the Projects' impacts on sheriff services will be further evaluated in the EIR. The proposed Projects do not include the development of residential land uses that would result a3) in an increase in population or student generation. Construction of the proposed Projects would not result in an increase in student population within the Imperial County's School District since it is anticipated that construction workers would commute in during construction operations. The proposed Projects would have no impact on Imperial County schools. No further analysis is warranted. a4, 5) Parks/Libraries/Other Public Facilities: Operation of the proposed Projects would require minimal full-time staff (for security, maintenance, etc.). Therefore, substantial permanent increases in population that would adversely affect local parks, libraries and other public facilities (such as post offices) are not expected. The Projects are not expected to have an impact on parks and other public facilities such as post offices, and libraries. Therefore, no further analysis of these issue areas is warranted. XV. RECREATION \boxtimes Would the project increase the use of the existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? Does the project include recreational facilities or \boxtimes require the construction or expansion recreational facilities which might have an adverse effect on the environment? The proposed Projects would not generate new employment on a long-term basis. As such, a and b) the project would not significantly increase the use or accelerate the deterioration of regional parks or other recreational facilities. The temporary increase of population during construction that might be caused by an influx of workers would be minimal and not cause a detectable increase in the use of parks. Additionally, the Projects do not include or require the expansion of recreational facilities. No impact will occur and no further analysis is warranted. TRANSPORTATION / TRAFFIC XVI. Would the project: \bowtie a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? Conflict with an applicable congestion management \boxtimes program, including but not limited to level of service standard and travel demand measures, or other standards established the by county

Potentially Significant

Unless

Mitigation

Less Than

Significant

No

Potentially

Significant

congestion/management agency for designated

roads or highways?

			Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
c)	either	It in a change in air traffic patterns, including an increase in traffic levels or a change in that results in substantial safety risks?				
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?					
e)	Resu	t in inadequate emergency access				
f)	Conflicts with adopted policies, plans, programs, regarding public transit, bicycle, or pedestrial facilities, or otherwise decrease the performance safety of such facilities?					
	a,b)	The construction phases of the proposed the area, which may result in a potential prepared and this issue will be addressed	ally significant			
	c,d)	The proposed Projects solar panels would patterns. Project access roads will be in each Project site to provide emergency u modules. These access roads would incompatible uses. No impact is identified	nplemented int nits vehicle ac not increase	to the project des cess and to allow	sign and locat v access to the	ed within e inverter
	e)	The proposed street improvement plan provisions for emergency access points a for this issue area.				
	f)	The proposed Projects are solar array far of-ways within the Project areas that the bus stops located within the Projects Projects do not include changes to the ex would not conflict with any adopted pobicycle, or pedestrian facilities, or othe facilities. Thus, no impact is identified for	Projects would boundaries of isting county rolicies, plans, erwise decrease	Id interfere with. r surrounding a roadway network. or programs re se the performa	There are cur rea and the The proposed garding publi	rently no proposed I Projects c transit,
XVII.	_	ILITIES AND SERVICE SYSTEMS				
Would	d the p					
a)		ed wastewater treatment requirements of the cable Regional Water Quality Control Board?	Ш	Ш		
b)	or wa	ire or result in the construction of new water ter treatment facilities or expansion of existing es, the construction of which could cause cant environmental effects?				
c)	water faciliti	ire or result in the construction of new storm drainage facilities or expansion of existing es, the construction of which could cause cant environmental effects?				
d)	projed	sufficient water supplies available to serve the ct from existing entitlements and resources, or ew or expanded entitlements needed?				

		Potentially Significant Impact (PSI)	Potentially Significant Unless Mitigation Incorporated (PSUMI)	Less Than Significant Impact (LTSI)	No Impact (NI)
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	e			
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				
g)	Comply with federal, state, and local statutes and regulations related to solid waste?				

- a,e) The Projects would generate a minimal volume of wastewater during construction. During construction activities, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No habitable structures are proposed on the project sites (such as O&M buildings); therefore, there would be no wastewater generation from the proposed projects. The proposed Projects would not exceed wastewater treatment requirements of the Regional Water Quality Control Board. A less than significant impact is identified for this issue area.
- b,d) The Projects are not anticipated to result in a significant increase in water demand/use; however, water will be needed for solar panel washing and fire protection (on site storage) once the Projects are fully operational. The Projects would potentially draw water from the IID controlled Westside Main Canal. This issue will be addressed in the EIR.
- c) The Projects do not include the construction of a storm drainage system or the alteration of the existing system. No impact is identified for this issue area. However, site drainage will be discussed in the Hydrology and Water Quality section of the EIR.
- f, g) During construction and operation of the Projects, waste generation will be minor. Solid waste will be disposed of using a locally-licensed waste hauling service, most likely Allied Waste. There are over 40 solid waste facilities listed in Imperial County in the CalRecycle database. Trash would likely be hauled to the Calexico Solid Waste Site located in Calexico or the CR&R Material Recovery Transfer Station located in El Centro. The Calexico Solid Waste site has approximately 1.1 million cubic yards of capacity (reporting date July 2009) and is estimated to remain in operation through 2077. The CR&R Material Recovery and Transfer station has a maximum permitted throughput of 99 tons/day. No closure date has been reported for this facility (http://www.calrecycle.ca.gov/SWFacilities/Directory/13-AA-0109/Detail/). Therefore, there is ample landfill capacity throughout the County to receive the minor amount of solid waste generated by project construction and operation.

Additionally, because the proposed Projects would generate solid waste during construction and operation, they will be required to comply with State and local requirements for waste reduction and recycling; including the 1989 California Integrated Waste Management Act and the 1991 California Solid Waste Reuse and Recycling Access Act of 1991. Also, conditions of the CUP for each Project site will contain provisions for recycling and diversion of construction waste per policies of the County. A less than significant impact is identified for this issue.

Note: Authority cited: Sections 21083 and 21083.05, Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21080(c), 21080.1, 21080.3, 21083.05, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino, (1988) 202 Cal. App. 3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal. App. 3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal. App. 4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal. App. 4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal. App. 4th 656.

Revised 2009- CEQA Revised 2011- ICPDS

5	Significant		
Potentially	Unless	Less Than	
Significant	Mitigation	Significant	No
Impact	Incorporated	Impact	Impact
(PSI)	(PSUMI)	(LTSI)	(NI)

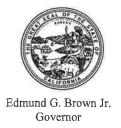
Potentially

III MANDATORY FINDINGS OF SIGNIFICANCE

III.	MANDATORY FINDINGS OF SIGNIFICANCE					
The	The following are Mandatory Findings of Significance in accordance with Section 15065 of the CEQA Guidelines.					
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?					
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)					
c)	Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?					
	a,b,c) The Projects have the potential to redirectly or indirectly cause adverse elementation of the proposed Project aesthetics, agricultural resources, air quate geology/soils, hazards and hazardous recreation, public services, transportation will be further evaluated in the FIR. In	effects on hu ts has the po ality, sensitive naterials, hyd n/circulation i	iman beings and otential to result biological resourd rology and water impacts, and wate	or the envi in impacts re ces, cultural re quality, land r supply. Thes	ronment. elated to: esources, use and se issues	

result in cumulative impacts with regards to the identified issue areas. Cumulative impacts will

be discussed and further analyzed in the EIR.



STATE OF CALIFORNIA Governor's Office of Planning and Research State Clearinghouse and Planning Unit



Notice of Preparation

May 14, 2015

To:

Reviewing Agencies

Re:

SEPV Dixieland East and West Solar Project

SCH# 2015051043

Attached for your review and comment is the Notice of Preparation (NOP) for the SEPV Dixieland East and West Solar Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

David Black Imperial County 801 Main Street El Centro, CA 92243

on Mygan

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely

Scott Morgan

Director, State Clearinghouse

RECEIVED

MAY 18 2015

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

Attachments cc: Lead Agency

Document Details Report State Clearinghouse Data Base

SCH# 2015051043

Project Title SEPV Dixieland East and West Solar Project

Lead Agency Imperial County

> Туре NOP Notice of Preparation

Description Construction of two Photovoltaic solar facilities, on two sites encompassing approximately 63 acres of

land. Each Project would include a ground mounted photovoltaic solar power generating system, supporting structures, electronic/electrical equipment, access roads and fencing. Partial roadway abandonments are also proposed. Each Project would be interconnected to the Imperial District electrical distribution system at an existing IID 12kV distribution line. Each project is proposed under a

separate Conditional Use Permit.

Lead Agency Contact

Name David Black

Agency Imperial County

Phone 442 265 1746

email

Address 801 Main Street

> City El Centro

State CA **Zip** 92243

Fax

Project Location

County

City Region

Cross Streets Evan Hewes Highway, Carriso Avenue, Broadway Avenue, Brown Road

Lat / Long 32° 6" N / 15° .60' 0" W

Parcel No. multiple

Township

16S Range 11E

Section 12 Base

Proximity to:

Highways

Airports

Railways Waterways

Westside Main Canal

Schools

Land Use

Undeveloped Land / A-2 Agriculture

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources;

> Drainage/Absorption; Fiscal Impacts; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Noise; Public Services; Schools/Universities; Septic System; Soil

Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water

Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

Reviewina Agencies Resources Agency; California Energy Commission; Department of Parks; and Recreation; Department

of Water Resources; Department of Fish and Wildlife, Region 6; Native American Heritage Commission; Public Utilities Commission; California Highway Patrol; Caltrans, District 11; Air

Resources Board; Regional Water Quality Control Board, Region 9

Date Received 05/14/2015 Start of Review 05/14/2015

End of Review 06/12/2015

Note: Blanks in data fields result from insufficient information provided by lead agency.

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814 Project Title: SEPV Dixieland East and West Solar Project Contact Person: David Black Lead Agency: Imperial County Phone: 442-265-1746 Mailing Address: 801 Main Street County: Imperial City: El Centro City/Nearest Community: Dixieland Project Location: County: Imperial Cross Streets: Evan Hewes Highway, Carriso Avenue, Broadway Avenue, Brown Road Zip Code: XXXXX "N/-15 ° 60 '0 "W Total Acres: 63 acres Longitude/Latitude (degrees, minutes and seconds): 32 Twp.: 16 South Range: 11 East Base: Assessor's Parcel No.: multiple Section: 12 Waterways: Westside Main Canal State Hwy #: Interstate 8 Within 2 Miles: Airports: Railways: **Document Type:** ☐ Joint Document Other: NEPA: NOI CEQA: X NOP Final Document EΑ Early Cons Supplement/Subsequent EIR Draft EIS Other: (Prior SCH No.) Neg Dec **FONSI** Mit Neg Dec Other: Local Action Type: Annexation General Plan Update Specific Plan Rezone Redevelopment Prezone Master Plan General Plan Amendment Coastal Permit ☐ Planned Unit Development Use Rermit General Plan Element Other:Road Vacation Land Division Community Plan Site Plan Development Type: Residential: Units Transportation: Type Employees_ ☐ Transpor ☐ Mining: Office: Sq.ft. Employees Mineral Commercial: Sq.ft. Acres_ Type Solar (PV) MW 5 × Power: Acres Employees Industrial: Sq.ft. MGD Waste Treatment: Type Educational: Hazardous Waste: Type Recreational: Water Facilities: Type Project Issues Discussed in Document: ▼ Vegetation Recreation/Parks × Fiscal X Aesthetic/Visual ■ Water Quality ▼ Schools/Universities ➤ Flood Plain/Flooding ★ Agricultural Land ➤ Water Supply/Groundwater ■ Septic Systems ➤ Forest Land/Fire Hazard X Air Quality ▼ Wetland/Riparian ☐ Sewer Capacity ▼ Geologic/Seismic ★ Archeological/Historical X Growth Inducement Minerals ▼ Soil Erosion/Compaction/Grading ⊠ Biological Resources X Land Use Coastal Zone ▼ Solid Waste × Noise Population/Housing Balance X Toxic/Hazardous ➤ Cumulative Effects ☒ Drainage/Absorption | Public Services/Facilities X Traffic/Circulation ☐ Economic/Jobs Present Land Use/Zoning/General Plan Designation: Undeveloped Land/A-2Agriculture Project Description: (please use a separate page if necessary)
Construction of two Photovoltaic (PV) solar facilities, on two sites encompassing approximately 63 acres of land. Each Project would include a ground mounted photovoltaic solar power generating system, supporting structures, electronic/electrical

Construction of two Photovoltaic (PV) solar facilities, on two sites encompassing approximately 63 acres of land. Each Project would include a ground mounted photovoltaic solar power generating system, supporting structures, electronic/electrical equipment, access roads and fencing. Partial roadway abandonments are also proposed. Each Project would be interconnected to the Imperial Irrigation District (IID) electrical distribution system at an existing IID 12kV distribution line. Each Project is proposed under a separate Conditional Use Permit (CUP).

Nor Dellandakisi	gisosi W	County of Imperi	ial alaman sa	2015051043
Resources Agency Resources Agency	Fish & Wildlife Region 1E Laurie Harnsberger	OES (Office of Emergency Services) Dennis Castrillo	Caltrans, District 8 Mark Roberts	Regional Water Quality Control Board (RWQCB)
Nadell Gayou Dept. of Boating & Waterways Nicole Wong	Fish & Wildlife Region 2 Jeff Drongesen Fish & Wildlife Region 3 Charles Armor	Native American Heritage Comm. Debbie Treadway	Gayle Rosander Caltrans, District 9 Caltrans, District 10 Tom Dumas	RWQCB 1 Cathleen Hudson North Coast Region (1) RWQCB 2
California Coastal Commission Elizabeth A. Fuchs	Fish & Wildlife Region 4 Julie Vance	Public Utilities Commission Leo Wong	Caltrans, District 11 Jacob Armstrong Caltrans, District 12	Environmental Document Coordinator San Francisco Bay Region (2)
Colorado River Board Lisa Johansen Dept. of Conservation	Fish & Wildlife Region 5 Leslie Newton-Reed Habitat Conservation Program	Santa Monica Bay Restoration Guangyu Wang	Maureen El Harake	Central Coast Region (3) RWQCB 4
Elizabeth Carpenter California Energy Commission	Fish & Wildlife Region 6 Tiffany Ellis Habitat Conservation	State Lands Commission Jennifer Deleong Tahoe Regional Planning	Cal EPA Air Resources Board	Teresa Rodgers Los Angeles Region (4) RWQCB 5S
Eric Knight Cal Fire Dan Foster	Program Fish & Wildlife Region 6 I/M Heidi Sickler	Agency (TRPA) Cherry Jacques Cal State Transportation	All Other Projects Cathi Slaminski Transportation Projects	Central Valley Region (5) RWQCB 5F Central Valley Region (5)
Central Valley Flood Protection Board James Herota	Inyo/Mono, Habitat Conservation Program Dept. of Fish & Wildlife M George Isaac	Agency CalSTA Caltrans - Division of Aeronautics	Nesamani Kalandiyur Industrial/Energy Projects Mike Tollstrup	Central Valley Region (
Office of Historic Preservation Ron Parsons	Marine Region Other Departments	Philip Crimmins Caltrans – Planning HQ LD-IGR	State Water Resources Contre Board Regional Programs Unit Division of Financial Assistance	RWQCB 6
Dept of Parks & Recreation Environmental Stewardship Section	Food & Agriculture Sandra Schubert Dept. of Food and	Terri Pencovic California Highway Patrol Suzann Ikeuchi	State Water Resources Contr Board Jeffery Werth	BWOCB 6V
California Department of Resources, Recycling & Recovery Sue O'Leary	Depart. of General Services	Office of Special Projects Dept. of Transportation	Division of Drinking Water State Water Resources Conta	rol RWQCB 7 Colorado River Basin Region (7) RWQCB 8
S.F. Bay Conservation & Dev't. Comm. Steve McAdam	Anna Garbeff	Caltrans, District 1 Rex Jackman	Student Intern, 401 Water Qua Certification Unit Division of Water Quality	Santa Ana Region (8) RWQCB 9 San Diego Region (9)
Dept. of Water Resources Resources Agency	Environmental Services Section Delta Stewardship	Caltrans, District 2 Marcelino Gonzalez Caltrans, District 3	State Water Resouces Contro Board Phil Crader Division of Water Rights	ol
Nadell Gayou Fish and Game	Council Kevan Samsam Housing & Comm. Dev. CEQA Coordinator	Eric Federicks – South Susan Zanchi - North Caltrans, District 4	Dept. of Toxic Substances Control CEQA Tracking Center	Other
Depart. of Fish & Wildlift Scott Flint Environmental Services	Housing Policy Division Independent	Erik Alm Caltrans, District 5 Larry Newland	Department of Pesticide Regulation CEQA Coordinator	
Division Fish & Wildlife Region 1 Donald Koch	Commissions, Boards Delta Protection Commission Michael Machado	Caltrans, District 6 Michael Navarro		Conservancy

Caltrans, District 7
Dianna Watson



GS-RE&ERCS

June 17, 2015

Mr. David Black
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: SEPV Dixieland East & Dixieland West Solar Projects NOP of an EIR and

IS

Dear Mr. Black:

On May 8, 2015 we received from the Imperial County Planning & Development Services Department, the Notice of Preparation (NOP) and Initial Study (IS) for the SEPV Dixieland East & Dixieland West Solar Projects. The projects propose the construction and operation of two small solar PV electricity generating facilities with a total output of 5MW on 63 acres of land located north of Evan Hewes Highway and adjacent to Brown and Carriso Roads, in the vicinity of the Dixieland Substation. The SEPV Dixieland East Solar Project (CUP #15-0006) will encompass 27 acres of land and generate 2 MW of electrical energy and the SEPV Dixieland West Solar Project (CUP #15-0005) will encompass 36 acres of land and generate 3MW.

The Imperial Irrigation District (IID) has reviewed the NOP and in addition to our March 11, 2015 and March 24, 2015 comment letters (see attachments) has the following comments:

1. The attached map shows IID's proposed and alternate double circuit 230kV IV-Dixieland line routes around the project site (blue dashed line). The project site obstructs the planned 230 kV IV-Dixieland transmission line routes and blocks future lines going west from our Dixieland Substation. Furthermore, the planned Dixieland Substation expansion is also compromised as a result of solar development west of the substation. Consequently, IID will require that the developer provide sufficient right-of-way to offset our planned 230kV lines coming into the Dixieland Substation.

Mr. David Black June 17, 2015 Page 2

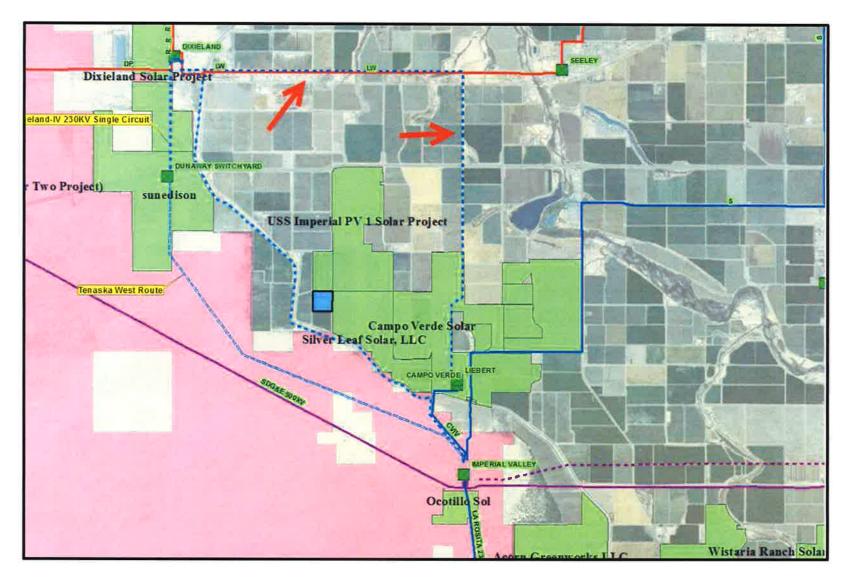
Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas

Environmental Regulatory Compliance Administrator

Kevin Kelley – General Manager
Kristine Fontaine – Asst. General Manager
Tina Shields – Interim Planning and Water Conservation Manager, Water Dept.
Mike Pacheco – Interim Operations and Maintenance Manager, Water Dept.
Carl Stills –Manager, Energy Dept.
Vance Taylor – Asst. General Counsel
Tom King – Deputy Energy Manager, Engineering & Operations
Paul G. Peschel – Manager Planning & Engineering, Energy Dept.
Angela Evans - Manager Distribution Services & Maintenance Operations
Oscar Kebriti – Supt. Gen. Project Implementation, Energy Dept.
Michael P. Kemp – Superintendent, Real Estate & Environmental Compliance
Randy Gray – Real Estate
Bruce Wilcox – Manager Environmental and Salton Sea Programs



IV-DIXIELAND 230 KV TRANSMISSION LINE PROPOSED ROUTES (BLUE DASHED LINE)



GS-RE&ERCS

March 11, 2015

Ms. Patricia Valenzuela
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: SEPV Imperial, LLC (SEPV Dixieland West) - CUP App. #15-0005

Dear Ms. Valenzuela:

On February 25, 2015 we received from the Imperial County Planning & Development Services Department, Conditional Use Permit (CUP) application #15-0005. The applicant, SEPV Imperial LLC, is proposing to construct and operate a 3MW solar pv electricity generation facility to be called SEPV Dixieland West, on 36 acres at the northeast corner of West Evan Hewes Hwy. and Carriso Ave., 5 miles west of Seeley, CA.

The Imperial Irrigation District (IID) has reviewed the application and has the following comments:

- 1. IID provides raw (untreated) Colorado River water to agricultural, municipal, industrial and commercial customers within its service area. In the case of renewable energy generators, all new non-agricultural water project supply requests are processed in accordance with the IID's Interim Water Supply Policy for Non-Agricultural Projects (IWSP) (see http://www.iid.com/index.aspx?page=152 for a link to the IWSP).
- 2. Also, on May 8, 2012 the IID Board of Directors adopted the Temporary Land Conversion Fallowing Policy (), a policy that requires participation from certain project developers and/or landowners as a condition of water service for new non-agricultural projects. In particular, this policy targets lower water demand projects, such as photovoltaic solar facilities, that require a temporary land use conversion and are permitted by conditional use permits on agriculturally-zoned lands (see IID websites http://www.iid.com/Modules/ShowDocument.aspx?documentid=5646 or the IID MCI webpage at http://www.iid.com/index.aspx?page=152).
- 3. For additional information regarding the IWSP and TLCFP, the IID Water Supply Planning section may be contacted at (760) 339-9755
- 4. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the

Ms. Patricia Valenzuela March 11, 2015 Page 2

encroachment permit application and instructions for its completion can be found at the IID website: http://www.iid.com/Modules/ShowDocument.aspx?documentid=3306. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.

- 5. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.
- 6. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, canals, drains, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.

Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully.

Donald Vargas

Environmental Regulatory Compliance Administrator

Kevin Kelley – General Manager
Kristine Fontaine – Asst. General Manager & Interim Portfolio Management Officer
Trina Shields – Interim Planning and Water Conservation Manager, Water Dept.
Mike Pacheco – Interim Operations and Maintenance Manager, Water Dept.
Carl Stills – Manager, Energy Dept.
Vance Taylor – Asst. General Counsel
Tom King – Deputy Energy Manager, Engineering & Operations
Paul G. Peschel – Manager Planning & Engineering, Energy Dept.
Angela Evans - Manager Distribution Services & Maintenance Operations
Oscar Kebriti – Supt. Gen. Project Implementation, Energy Dept.
Michael P Kemp – Superintendent, Real Estate & Environmental
Shayne Ferber – Supervisor, Real Estate
Bruce Wilcox – Manager Environmental and Salton Sea Programs
Vikki Dee Bradshaw – Environmental Compliance Officer



GS-RE&ERCS

March 24, 2015

Mr. David Black Planner IV Planning & Development Services Department County of Imperial 801 Main Street El Centro, CA 92243

SUBJECT:

SEPV Imperial, LLC (SEPV Dixieland East) - CUP App. #15-0006

Dear Mr. Black:

On February 26, 2015 we received from the Imperial County Planning & Development Services Department, Conditional Use Permit (CUP) application #15-0006. The applicant, SEPV Imperial LLC, is proposing to construct and operate a 2MW solar pv electricity generation facility to be called SEPV Dixieland East, on 20 acres at the northeast corner of Brown Road and Potrero Avenue, 5 miles west of Seeley, CA.

The Imperial Irrigation District (IID) has reviewed the application and has the following comments:

- IID provides raw (untreated) Colorado River water to agricultural, municipal, industrial and commercial customers within its service area. In the case of renewable energy generators, all new non-agricultural water project supply requests are processed in accordance with the IID's Interim Water Supply Policy for Non-Agricultural Projects (IWSP) (see http://www.iid.com/index.aspx?page=152 for a link to the IWSP).
- 2. Also, on May 8, 2012 the IID Board of Directors adopted the Temporary Land Conversion Fallowing Policy, a policy that requires participation from certain project developers and/or landowners as a condition of water service for new non-agricultural projects. In particular, this policy targets lower water demand projects, such as photovoltaic solar facilities, that require a temporary land use conversion and are permitted by conditional use permits on agriculturally-zoned lands (see IID websites http://www.iid.com/Modules/ShowDocument.aspx?documentid=5646 or the IID MCI webpage at http://www.iid.com/index.aspx?page=152).
- 3. For additional information regarding the IWSP and TLCFP, the IID Water Supply Planning section may be contacted at (760) 339-9755
- 4. The applicant should be advised to contact IID Energy Customer Operations and Planning Section at (760) 482-3402 or (760) 482-3300 for information regarding electrical service for the project's construction, station service and O&M facility.

- 5. Any construction or operation on IID property or within its existing and proposed right of way or easements including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities; will require an encroachment permit, or encroachment agreement (depending on the circumstances). A copy of the encroachment permit application and instructions for its completion can be found at the IID website: http://www.iid.com/Modules/ShowDocument.aspx?documentid=3306. The IID Real Estate Section should be contacted at (760) 339-9239 for additional information regarding encroachment permits or agreements.
- 6. In addition to IID's recorded easements, IID claims, at a minimum, a prescriptive right of way to the toe of slope of all existing canals and drains. Where space is limited and depending upon the specifics of adjacent modifications, the IID may claim additional secondary easements/prescriptive rights of ways to ensure operation and maintenance of IID's facilities can be maintained and are not impacted and if impacted mitigated. Thus, IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. Certain conditions may be placed on adjacent facilities to mitigate or avoid impacts to IID's facilities.
- 7. Any new, relocated, modified or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, canals, drains, etc.) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or modification of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.

Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully

Donald Vargas

Environmental Regulatory Compliance Administrator

Kevin Kelley – General Manager
Kristine Fontaine – Asst. General Manager
Trina Shields – Interim Planning and Water Conservation Manager, Water Dept.
Mike Pacheco – Interim Operations and Maintenance Manager, Water Dept.
Carl Stills –Manager, Energy Dept.
Vance Taylor – Asst. General Counsel
Tom King – Deputy Energy Manager, Engineering & Operations
Paul G. Peschel – Manager Planning & Engineering, Energy Dept.
Angela Evans - Manager Distribution Services & Maintenance Operations
Oscar Kebriti – Supt. Gen. Project Implementation, Energy Dept.
Michael P. Kemp – Superintendent, Real Estate & Environmental
Shayne Ferber – Supervisor, Real Estate
Bruce Wilcox – Manager Environmental and Salton Sea Programs
Vikki Dee Bradshaw – Environmental Compliance Officer



GS-RE&ERCS

March 24, 2015

Mr. David Black
Planner IV
Planning & Development Services Department
County of Imperial
801 Main Street
El Centro, CA 92243

SUBJECT: SEPV Imperial, LLC (SEPV Dixieland East) - CUP App. #15-0006 -

Additional Comments

Dear Mr. Black:

In addition to our comments on the above mentioned projects submitted to you earlier today, the Imperial Irrigation District (IID) has the following additional concerns:

The Imperial Irrigation District (IID) has reviewed the application and has the following comments:

- 1. The Westside Main Canal may be impacted. The project site is located adjacent to and west of this IID facility.
- 2. The project proponent may not use IID's canal or drain banks to access the project site. Any abandonment of easements or facilities shall be approved by IID based on systems (Irrigation, Drainage, Power... etc.) needs.
- Storm, drainage, and/or seepage reservoir waters are not allowed to discharge into the Westside Main Canal. We request that the project's Storm Water Pollution Prevention Plan be submitted to IID Water Engineering Services prior to final design.
- 4. Furthermore, to insure there are no impacts to IID facilities, the project's grading, drainage and fencing plans should be submitted to IID Water Engineering Services prior to final project design. IID Water Engineering Services can be contacted at (760) 339-9265 for further information.
- 5. For construction water the applicant is required to contact IID South End Division at (760) 482-9800.

Mr. David Black March 24, 2015 Page 2

Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,

Donald Vargas

Environmental Regulatory Compliance Administrator

Kevin Kelley – General Manager
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Bruce Wilcox – Manager Environmental and Salton Sea Programs
Vikki Dee Bradshaw – Environmental Compliance Officer

150 SOUTH NINTH STREET EL CENTRO, CA 92243-2850 TELEPHONE: (442) 265-1800 FAX: (442) 265-1799



June 18, 2015

Mr. Jim Minnick
Planning and Development Services Director
Planning & Development Services
801 Main Street
El Centro, CA 92243

SUBJECT: Notice of Preparation (NOP) for a Draft Environmental Impact Report

(DEIR) for SEPV Dixieland East and West Solar Project

Dear Mr. Minnick,

The NOP to prepare a Draft EIR for the SEPV Dixieland East and West Solar Project has been reviewed by the Imperial County Air Pollution Control District (Air District). As you know, the Air District's established programs to keep the air in Imperial County from declining are found within the Rules and Regulations of the Air District, the California Environmental Quality Act (CEQA), the most current CEQA Air Quality Handbook for Imperial County, the Air District State Implementation Plans (SIP's) for Ozone and PM₁₀, and the Air District non-attainment status. Currently, the "moderate" non-attainment status for ozone, serious" non-attainment status for PM₁₀, non attainment for PM_{2.5} are the driving criteria in establishing the thresholds for NOx, ROG, PM₁₀, SOx and CO. These thresholds and their significance are explained within the pages of the Imperial County CEQA Air Quality Handbook. Section 6 of the CEQA handbook describes the preparation of the Air Quality Analysis for an Environmental Impact Report (EIR). However, in the event that any of the protocols conflict with the provisions of CEQA or its Guidelines, the provisions of CEQA or its Guidelines shall control.

The following is a synopsis of the information pertinent to the development of an Air Quality analysis. A **comprehensive Air Quality Analysis** of the construction and operational impacts of the project is required. A thorough analysis should include a description, impacts and health consequences of all air quality and associated emissions. The analysis should be conducted using the Air Districts approved modeling factors. The analysis should include short and long term emissions as well as daily and yearly emission calculations. Project alternatives should be included along with a thorough emissions analysis per alternative. A description of the Air District attainment status, State and Federal, is required as is describing any regulatory restrictions to the project. All temporary construction and grading impacts should quantify fugitive dust

¹The most current modeling tool recently adopted is CalEEMod.

and combustion emissions and propose mitigation measures.

A health risk assessment such as a diesel exhaust screening level should be included for projects anticipating the use of heavy-duty diesel equipment.² A health risk assessment should also be conducted for projects locating near already existing facilities with a potential to emit toxics. Typically, these health risk assessments are of a quantitative nature but can be a mixed qualitative and quantitative analysis. In any case, the relative human exposure, location of the project, distance to sensitive receptors all should be considered when developing the risk assessment.

Projects anticipating heavy volumes of traffic should conduct hot spot modeling.³ Hot spot modeling will help determine compliance with the state CO standard at intersections and roadway links as determined by traffic impact analysis. In addition, existing and proposed projects must have a cumulative impact analysis. For each subanalysis and risk assessment mitigation measures should be identified, quantified for effectiveness and incorporated into the environmental document (i.e. Environmental Impact Report EIR or Environmental Impact Statement EIS). All mitigation measures must follow District Rules and Regulations including the most current CEQA Air Quality Handbook. Consultation with the most recent Clean Air Plans (SIP's), District Rules and Regulations and other Air District approved programs is recommended for effective applicability of standards. When it becomes apparent that on-site mitigation is insufficient to reduce the impacts to insignificance then off-site mitigation should be discussed and appropriately applied. Finally, in accordance with Assembly Bill 32 known as the Global Warming Solutions Act of 2006 and the most recent amendments to the CEQA Guidelines dated March of 2010, a discussion of the impacts from Green House Gas emissions and its relation to Climate Change is required.

The EIR shall discuss combined cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065 (c)(a)(3) of the California Environmental Quality Act (CEQA) Guidelines.⁴ Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

In addition, all construction sites regardless of size must adhere to the requirements of Regulation VIII, Fugitive Dust Control. This regulation is comprised of six individual rules which combined apply Best Available Control Measures to any size construction or earthmoving activity. Aside from the standard of measurement, is the requirement of a dust control plan, notification 10 days prior to the commencement of construction to the

² Guidelines and procedures as approved by the California Air Resources Board and the Office of Environmental Health Hazard Assessment (OEHHA)

³ Using APCD approved hot spot modeling such as CALINE4, developed by and available through the California Department of Transportation.

⁴ CEQA Guidelines, Section 15130, describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQ Regulations

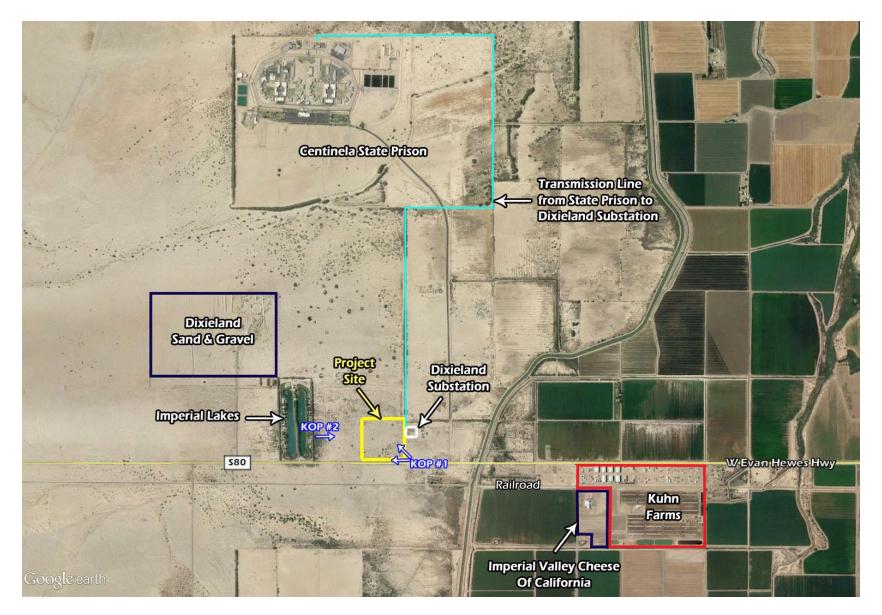
Air District, and the submittal of the equipment list that shall be sued in the construction and operation of the project is important. Finally, all new residential and commercial projects are subject to the requirements of the Air District's Rule 310 – Operational Development Fees by which provide the Air District with a mitigation method for the emissions produced in the operation of the proposed project. The Imperial County's Rule book can be found at http://www.imperialcounty.net under "Air Pollution Control." We encourage all developers, construction companies, cities and interested parties to obtain of copy of the Regulation VIII, Fugitive Dust Control. Should you have any questions please do not hesitate to call the office at 760-482-4606.

Respectfully Submitted,

noan Soncein

Monica N. Soucier

APC Division Manager



SEPV Dixieland West Project Location

Proposed KOPs

SEPV Dixieland West

#1. Intersection of Evan Hewes and Carriso Avenue. One looking north, one looking west.



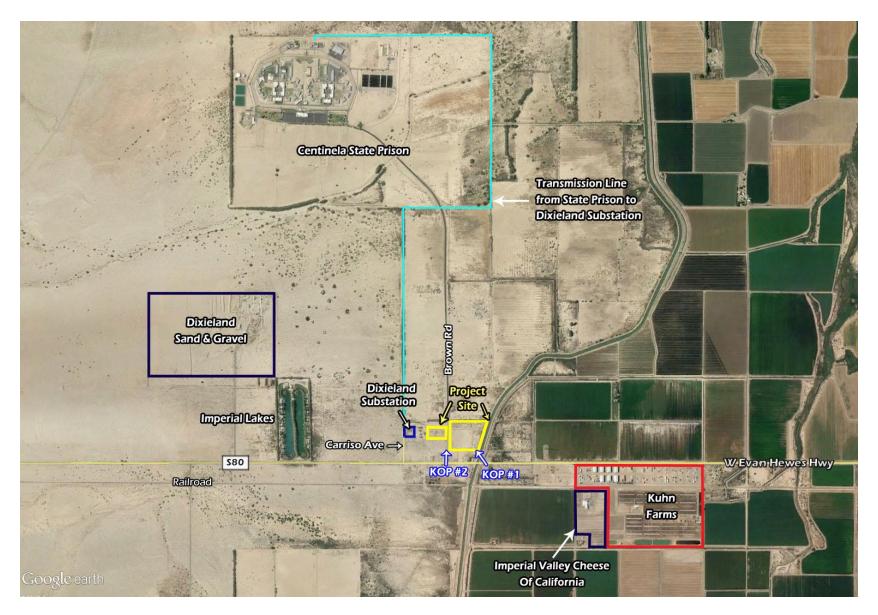
HDR approved this view for KOP#2 - Looking north



KOP#2 - Looking west

#2. From about the mid-point of Imperial Lakes boundary looking east towards the project.





SEPV Dixieland East Project Location

Proposed KOPs

SEPV Dixieland East

#1. At the Westside Main Canal (or perhaps a little further east) along Evan Hewes. Looking north/west.



#2. At the intersection of Evan Hewes and Brown Rd – looking west or north.



LESA ASSESSMENT SEPV DIXIELAND EAST PROJECT

(Portions of NW/4 Section 07, T16S, R12E, SBB&M)

IMPERIAL COUNTY, CALIFORNIA

April 2015

EMA Report No. 2316-1-03

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd, Suite 414 Los Angeles, CA 90049



LAND EVALUATION AND SITE ASSESSMENT MODEL

SEPV DIXIELAND EAST PROJECT (Portions of NW/4 Section 07, T16S, R12E, SBB&M) IMPERIAL COUNTY, CALIFORNIA

The Land Evaluation and Site Assessment (LESA) model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA model was first developed by the federal Natural Resources Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agriculture lands in California. The formulation of the California LESA Model is intended to provide lead agencies under the California Environmental Quality Act (CEQA) with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process.

For determining the potential CEQA significance resulting from the conversion of agricultural lands to some other purpose, the California Agricultural LESA Model has developed Scoring Thresholds which are used to compare the Final LESA Score and the Weighted Factor Scores for the Project with suggested Scoring Decisions. These LESA Scores do not take into consideration any proposed mitigation measures or other factors that might affect a lead agency's determination of the significance of the agricultural lands conversion impact under CEQA.

The information provided on the following pages present documentation of the LESA assessment prepared using the California Agricultural LESA Model for the SEPV Dixieland East Project (Project) (APN 051-047-001, APN 051-047-002, APN 051-035-001 and APN 051-035-002). The proposed SEPV Dixieland East Project would be constructed on approximately 25 acres of privately owned land located in southwest Imperial County, California, located approximately 12 miles west of the city of El Centro and approximately 0.1 mile north of the junction of State Highway 80 and Brown Road (Figure 1 and Figure 2). The Project is bounded on the east by Canal Street and on the west by the undeveloped street, Broadway Street.

LESA ASSESSMENT

SEPV IMPERIAL, LLC SEPV DIXIELAND EAST PROJECT IMPERIAL COUNTY, CALIFORNIA

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APPENDIX A: SEPV DIXIELAND EAST PROJECT SOILS DETAILS

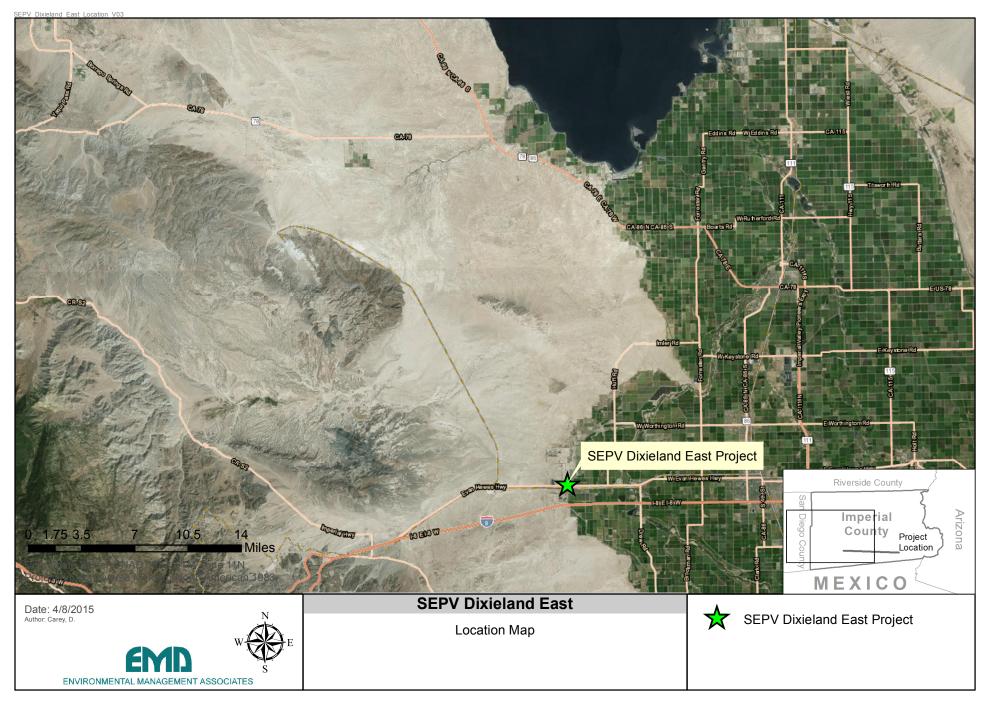


Figure 1: Location Map

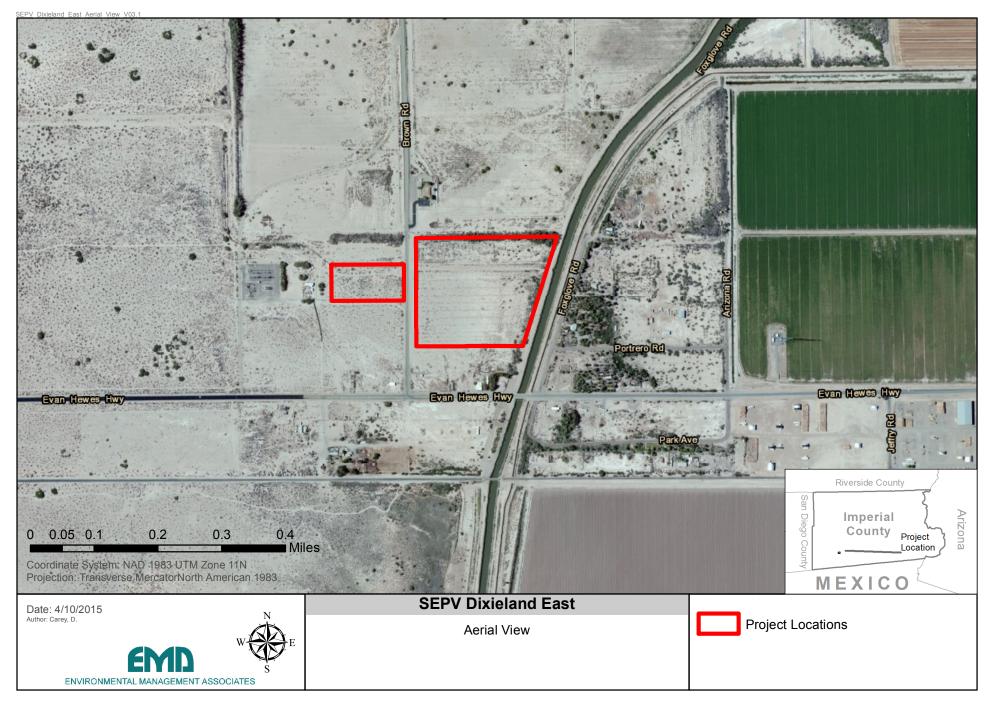


Figure 2 : Development Area on an Aerial Photographic Base

	Land Evaluation Worksheet									
Α	В	B C D E F G								
Soil Map Unit*	Project Acres	Proportion of	LCC**	LCC Rating	LCC Score	Storie	Storie Index			
3011 Map Offic	****	Project Area	(nonirrigated)	(nonirrigated)***	(C x E)	Index**	Score (C x G)			
121	22.6	0.894	VIIe	10	8.94	54	48.27			
122	2.7	0.106	VIIw	10	1.06	75	7.96			
Totals	25.3	1.000		LCC Total Score	10.00	Storie Index Total Score	56.23			

Total Project Area (acres)= 25.3	
-----------------------------------	--

^{*} The Soil Map Unit information and acreage were determined from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Figure 3).

^{**} The Land Capability Classification and Storie Index information was obtained from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Appendix A).

^{***} The LCC Rating for nonirrigated land was determined from the LCC Point Rating Table 2 from the LESA Instruction Manual (California Department of Conservation 1997).

^{****} Total acreage of each soil unit on each lot (Figures 3a, 3b).



Figure 3a: Development Area Soils Map

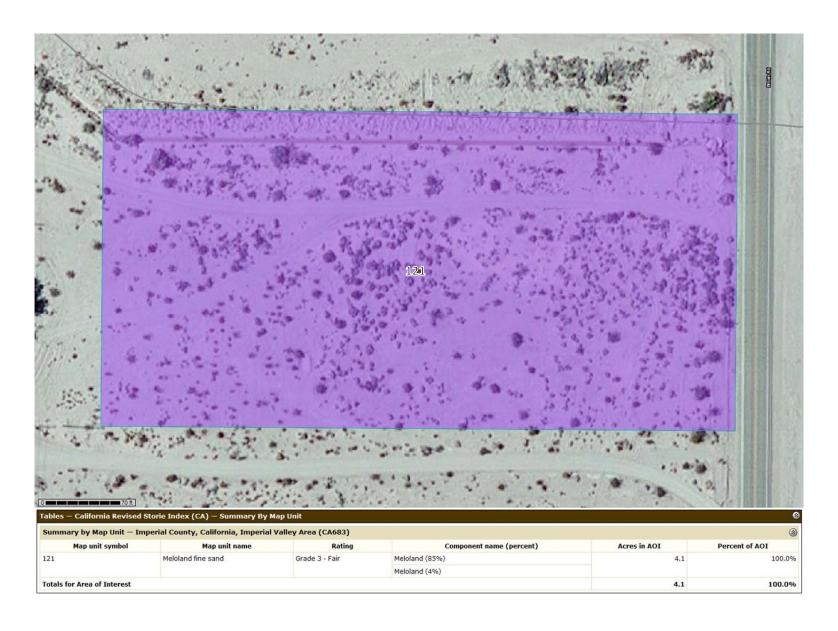


Figure 3b: Development Area Soils Map

	Site A	Assessment Wor	ksheet 1				
	Project Size Score*						
	I J K						
	LCC Class I-II	LCC Class III	LCC Class IV-VIII				
Project Acres per LCC Class			22.6				
Project Acres per LCC Class			2.7				
Total Project Acres per LCC Class	0	0	25				
* Project Size Scores	0	0	0				
Highest Project Size Score	0						

^{*} Project Size Score was determined from the Project Size Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).

	Site Assessment Worksheet 2							
	Wate	r Resources Ava	ailability					
Α	В	С	D	Е				
Project Portion	Water Source	Proportion of Project Area	Water Availability Score*	Weighted Availability Score (C x D)				
1	Neither irrigated nor dryland production feasible	1.0	0	0				
2								
3								
4								
5								
6								
		(Must Sum to 1.0)	Total Water Resource Score	0				

^{*} The Water Availability Score was determined using the Water Resources Availability Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997) using data provided by SEPV.

Site Assessment Worksheet 3								
Surrounding Agricultural Land & Surrounding Protected Resource Land								
Α	В	С	D	Е	F	G		
	Zoı		Surrounding	Surrounding				
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (B/A)	Percent Agricultural P in Protected Land Score Reso				
515.1	132	0	25.6	0	0	0		

^{*} In conformance with the instructions in the LESA Instruction Manual (California Department of Conservation 1997), the Zone of Influence was determined by drawing the smallest rectangle that could completely encompass the entire Project Area. A second rectangle was then drawn which extended one quarter mile on all sides beyond the first rectangle. The Zone of Influence is represented by the entire area of all parcels with any lands inside the outer rectangle, less the area of the proposed project (Figure 4).

^{**} The LESA Instruction Manual (California Department of Conservation 1997) describes *Protected Resource Land* as those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following: Williamson Act contracted lands; Publicly owned lands maintained as park, forest, or watershed resources; and Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Surrounding Parcels***	Acres	Protected Resource Land?	Percent Protected Resource Land	Acres in Protected Land	Agricultural Land?	Percent Agricultural Land	Acres of Agriculture
051-092-011	3.8	N	0	0	N	0	0.0
051-051-002	4.1	N	0	0	N	0	0.0
051-084-002	8.2	N	0	0	N	0	0.0
051-092-010	2.0	N	0	0	Y	100	2.0
051-092-014	5.9	N	0	0	Υ	100	5.9
051-081-003	1.5	N	0	0	N	0	0.0
051-084-003	2.5	N	0	0	N	0	0.0
051-051-003	1.1	N	0	0	N	0	0.0
051-081-002	4.5	N	0	0	N	0	0.0
051-091-001	6.1	N	0	0	N	0	0.0
051-081-001	1.7	N	0	0	N	0	0.0
034-360-042	69.5	N	0	0	N	0	0.0
034-360-039	28.1	N	0	0	N	0	0.0
034-360-037	5.6	N	0	0	N	0	0.0
034-390-025	114.5	N	0	0	N	0	0.0
034-390-026	38.1	N	0	0	N	0	0.0
051-020-028	30.9	N	0	0	Y	100	30.9
051-020-027	63.7	N	0	0	Υ	100	63.7
051-020-003	29.4	N	0	0	Υ	100	29.4
051-084-001	3.1	N	0	0	N	0	0.0
All Resident Lots	90.9	N	0	0	N	0	0.0
Total	515.1		Total	0		Total	132

^{***}The Imperial County Assessors website was accessed to identify the surrounding parcel numbers (http://www.co.imperial.ca.us/assessor/). The percentage of agriculture was determined from a map overlay used to estimate the proportion of land in agriculture and the California Department of Conservation Important Farmland Map Series.

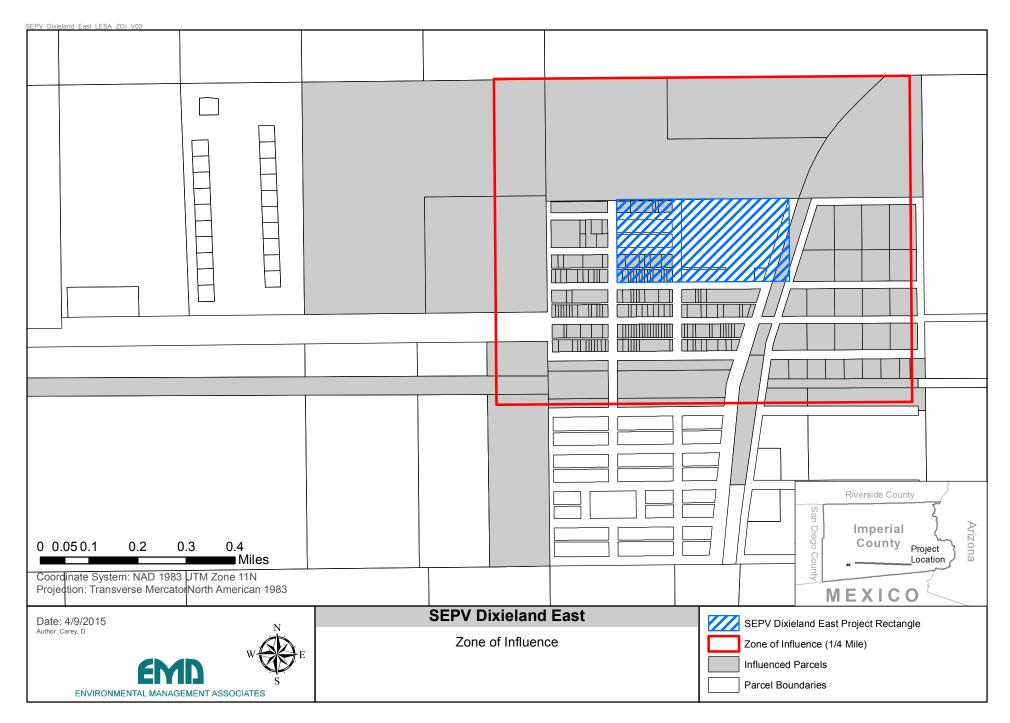


Figure 4: Zone of Influence

Final LESA	Final LESA Score Sheet					nia LESA Model Scoring Thresholds	
	Factor Scores	Factor Weight	Weighted Factor Scores		Total LESA Score	Scoring Decision	
LE Factors							
Land Capability Classification	10.00	0.25	2.50		0 to 39 Points	Not Considered Significant	
Storie Index	56.23	0.25	14.06		0 10 39 F011113	Inot Considered Significant	
LE subtotal		0.50	16.56				
SA Factors				40 to 59 Points Considered Significant only if LE and SA sul		Considered Significant only if LE and SA subscores are	
Project Size	0	0.15	0.00		40 10 39 F011113	each greater than or equal to 20 points	
Water Resource Availability	0	0.15	0.00				
Surrounding Agricultural Land	0	0.15	0.00		60 to 79 Points	Considered Significant unless either LE or SA subscore	
Protected Resource Land	0	0.05	0.00		00 10 79 F011113	is <u>less</u> than 20 points	
SA Subtotal		0.50	0.00				
		Total LESA Score	16.56		80 to 100 Points	Considered Significant	



Imperial County, California, Imperial Valley Area

121—Meloland fine sand

Map Unit Setting

National map unit symbol: h8zw Elevation: -230 to 300 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Meloland and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Meloland

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed and/or eolian deposits

derived from mixed

Typical profile

H1 - 0 to 12 inches: fine sand

H2 - 12 to 26 inches: stratified loamy fine sand to silt loam

H3 - 26 to 71 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Slightly saline to moderately saline (8.0

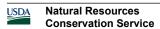
to 16.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 13.0

Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s Land capability classification (nonirrigated): 7e



Hydrologic Soil Group: D

Minor Components

Niland

Percent of map unit: 4 percent

Glenbar

Percent of map unit: 4 percent

Meloland

Percent of map unit: 4 percent

Rositas

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Imperial County, California, Imperial Valley Area

122—Meloland very fine sandy loam, wet

Map Unit Setting

National map unit symbol: h8zx Elevation: -230 to 200 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Prime farmland if irrigated and drained

Map Unit Composition

Meloland, wet, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Meloland, Wet

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed and/or eolian deposits

derived from mixed

Typical profile

H1 - 0 to 12 inches: very fine sandy loam

H2 - 12 to 26 inches: stratified loamy fine sand to silt loam

H3 - 26 to 71 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Slightly saline to moderately saline (8.0

to 16.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 13.0

Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 3w Land capability classification (nonirrigated): 7w Hydrologic Soil Group: D

Minor Components

Indio

Percent of map unit: 3 percent

Holtville

Percent of map unit: 3 percent

Glenbar

Percent of map unit: 3 percent

Vint

Percent of map unit: 3 percent

Imperial

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

California Revised Storie Index (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index assesses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 is determined for each factor, and the scores are multiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 81 to 100; grade 2 (good), 61 to 80; grade 3 (fair), 41 to 60; grade 4 (poor), 21 to 40; grade 5 (very poor), 11 to 20; and grade 6 (nonagricultural), 10 or less.

Report—California Revised Storie Index (CA)

California Revised Storie Index (CA)–Imperial County, California, Imperial Valley Area							
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)					
		Rating class	Value				
121—Meloland fine sand							
Meloland	85	Grade 3 - Fair	54				
122—Meloland very fine sandy loam, wet							
Meloland, WET	85	Grade 2 - Good	75				

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

California Revised Storie Index (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index assesses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 is determined for each factor, and the scores are multiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 81 to 100; grade 2 (good), 61 to 80; grade 3 (fair), 41 to 60; grade 4 (poor), 21 to 40; grade 5 (very poor), 11 to 20; and grade 6 (nonagricultural), 10 or less.

Report—California Revised Storie Index (CA)

California Revised Storie Index (CA)–Imperial County, California, Imperial Valley Area						
Map symbol and soil name	Pct. of map unit	it California Revised Storie Index (CA)				
		Rating class	Value			
121—Meloland fine sand						
Meloland	85	Grade 3 - Fair	54			

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

LESA ASSESSMENT SEPV DIXIELAND WEST PROJECT

(SE/4 of NE/4 Section 12, T16S, R12E, SBB&M)

IMPERIAL COUNTY, CALIFORNIA

March 2015

EMA Report No. 2316-2-01

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd, Suite 414 Los Angeles, CA 90049



LAND EVALUATION AND SITE ASSESSMENT MODEL

SEPV DIXIELAND WEST PROJECT (SE/4 of NE/4 Section 12, T16S, R12E, SBB&M) IMPERIAL COUNTY, CALIFORNIA

The Land Evaluation and Site Assessment (LESA) model is an approach for rating the relative quality of land resources based upon specific measurable features. The LESA model was first developed by the federal Natural Resources Conservation Service (NRCS) in 1981. It was subsequently adapted in 1990 by the California Department of Conservation to evaluate land use decisions that affect the conversion of agriculture lands in California. The formulation of the California LESA Model is intended to provide lead agencies under the California Environmental Quality Act (CEQA) with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process.

For determining the potential CEQA significance resulting from the conversion of agricultural lands to some other purpose, the California Agricultural LESA Model has developed Scoring Thresholds which are used to compare the Final LESA Score and the Weighted Factor Scores for the Project with suggested Scoring Decisions. These LESA Scores do not take into consideration any proposed mitigation measures or other factors that might affect a lead agency's determination of the significance of the agricultural lands conversion impact under CEQA.

The information provided on the following pages present documentation of the LESA assessment prepared using the California Agricultural LESA Model for the SEPV Dixieland West Project (Project) (APN 034-390-026). The proposed SEPV Dixieland West Project would be constructed on approximately 38 acres of privately owned land located in southwest Imperial County, California, approximately 13 miles west of the City of El Centro and approximately 0.25 miles west of the junction of State Highway 80 and Brown Road (Figure 1 and Figure 2).

LESA ASSESSMENT

SEPV IMPERIAL, LLC SEPV DIXIELAND WEST PROJECT IMPERIAL COUNTY, CALIFORNIA

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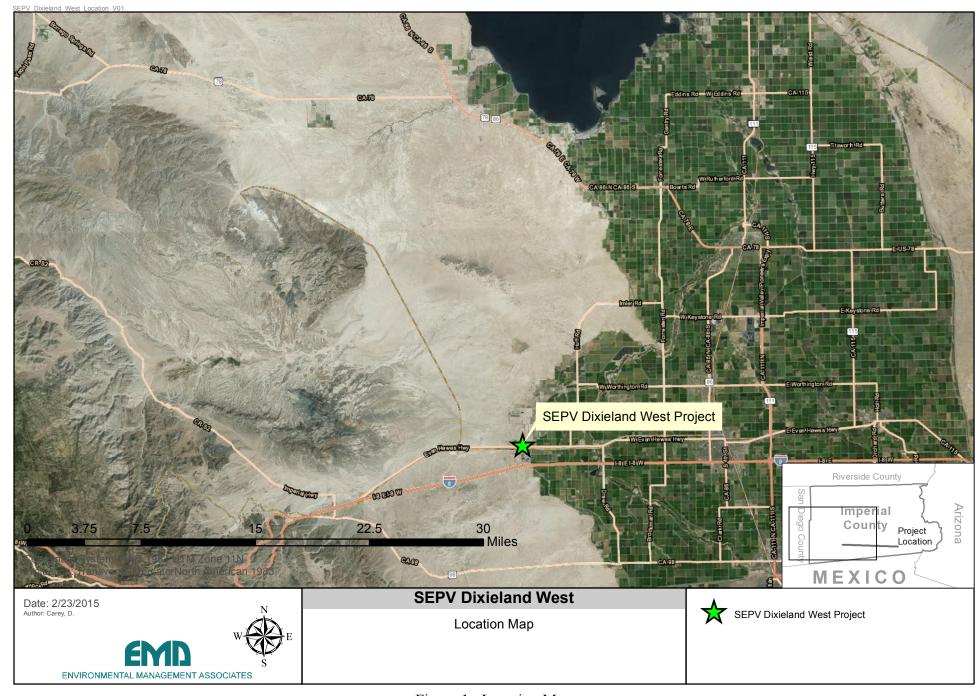


Figure 1 : Location Map

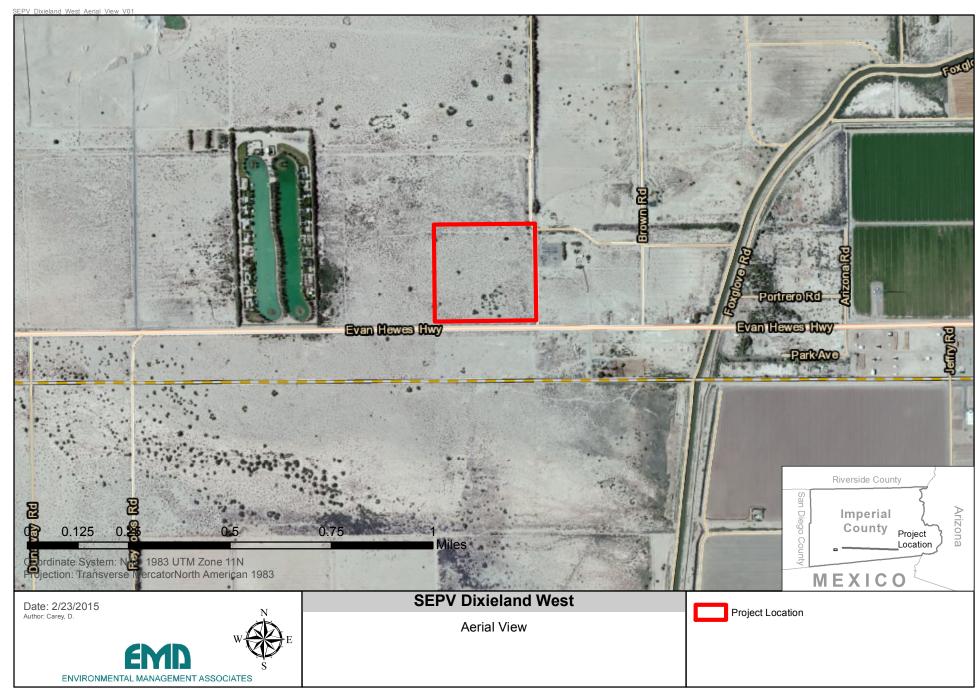


Figure 2 : Development Area on an Aerial Photographic Base

	Land Evaluation Worksheet									
Α	В	С	D E		F	G	Н			
Soil Map Unit*	Project Acres	Proportion of Project Area	LCC** (nonirrigated)	LCC Rating (nonirrigated)***	LCC Score (C x E)	Storie Index**	Storie Index Score (C x G)			
119	0.9	0.023	VIIe	10	0.23	84	1.93			
121	4.5	0.117	VIIe	10	1.17	54	6.31			
130	32.2	0.845	VIIe	10	8.45	47	39.70			
132	0.6	0.016	VIIe	10	0.16	51	0.82			
Totals	38.2	1.000		LCC Total Score	10.00	Storie Index Total Score	48.75			

Total Project	38 <i>2</i>
Area (acres)=	30.2

^{*} The Soil Map Unit information and acreage were determined from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Figure 3).

^{**} The Land Capability Classification and Storie Index information was obtained from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Appendix A).

^{***} The LCC Rating for nonirrigated land was determined from the LCC Point Rating Table 2 from the LESA Instruction Manual (California Department of Conservation 1997).

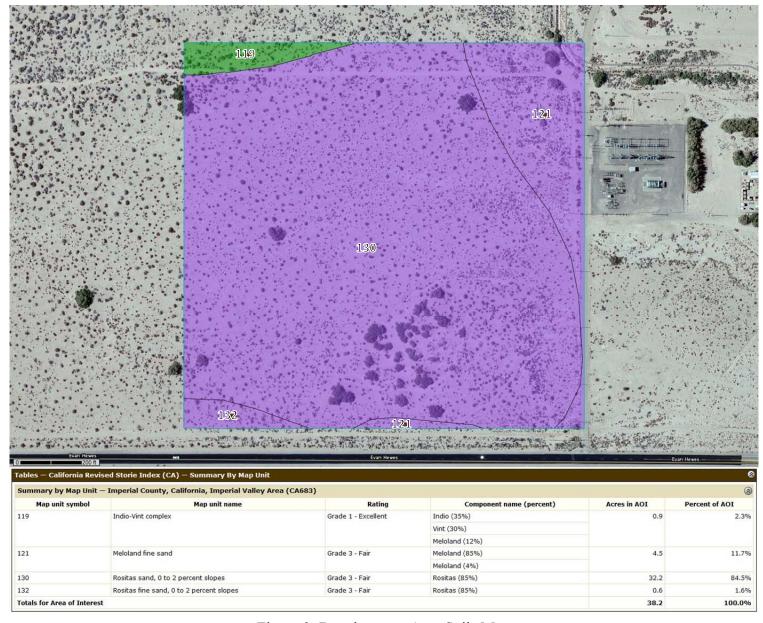


Figure 3: Development Area Soils Map

Site Assessment Worksheet 1				
Project Size Score*				
ı	J	K		
LCC Class I-II	LCC Class III	LCC Class IV-VIII		
		0.9		
		4.5		
		32.2		
		0.6		
0	0	5		
0	0	0		
0				
	I	Project Size Sco		

^{*} Project Size Score was determined from the Project Size Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).

Site Assessment Worksheet 2							
Water Resources Availability							
Α	В	Е					
Project Portion	Water Source	Proportion of Project Area	Water Availability Score*	Weighted Availability Score (C x D)			
1	Neither irrigated nor dryland production feasible	1.0	0	0			
2							
3							
4							
5							
6							
		(Must Sum to 1.0)	Total Water Resource Score	0			

^{*} The Water Availability Score was determined using the Water Resources Availability Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997) using data provided by SEPV.

Site Assessment Worksheet 3						
Surro	ounding Agri	cultural Lar	nd & Surroun	ding Protect	ed Resource	Land
Α	В	С	D	E	F	G
	Zor	ne of Influenc	e*		Surrounding	Surrounding
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)	Agricultural Land Score (From LESA Manual Table 6)	Protected Resource Land Score (From LESA Manual Table 7)**
446.7	64	0	14.3	0	0	0

^{*} In conformance with the instructions in the LESA Instruction Manual (California Department of Conservation 1997), the Zone of Influence was determined by drawing the smallest rectangle that could completely encompass the entire Project Area. A second rectangle was then drawn which extended one quarter mile on all sides beyond the first rectangle. The Zone of Influence is represented by the entire area of all parcels with any lands inside the outer rectangle, less the area of the proposed project (Figure 4).

^{**} The LESA Instruction Manual (California Department of Conservation 1997) describes *Protected Resource Land* as those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following: Williamson Act contracted lands; Publicly owned lands maintained as park, forest, or watershed resources; and Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Surrounding Parcels***	Acres	Protected Resource Land?	Percent Protected Resource Land	Acres in Protected Land	Agricultural Land?	Percent Agricultural Land	Acres of Agriculture
051-084-002	8.2	N	0	0	N	0	0.0
051-081-003	1.5	N	0	0	N	0	0.0
051-084-003	2.5	N	0	0	N	0	0.0
051-081-002	4.5	N	0	0	N	0	0.0
051-081-001	1.7	N	0	0	N	0	0.0
034-360-042	69.5	N	0	0	N	0	0.0
034-360-040	52.6	N	0	0	N	0	0.0
034-360-038	32.7	N	0	0	N	0	0.0
034-360-039	28.1	N	0	0	N	0	0.0
034-360-037	5.6	N	0	0	N	0	0.0
034-360-036	6.4	N	0	0	N	0	0.0
034-360-035	10.1	N	0	0	N	0	0.0
034-390-025	114.5	N	0	0	N	0	0.0
051-020-027	63.7	N	0	0	Y	100	63.7
051-084-001	3.1	N	0	0	N	0	0.0
All Resident Lots	42.0	N	0	0	N	0	0.0
Total	446.7		Total	0		Total	64

^{***}The Imperial County Assessors website was accessed to identify the surrounding parcel numbers (http://www.co.imperial.ca.us/assessor/). The percentage of agriculture was determined from a map overlay used to estimate the proportion of land in agriculture and the California Department of Conservation Important Farmland Map Series.

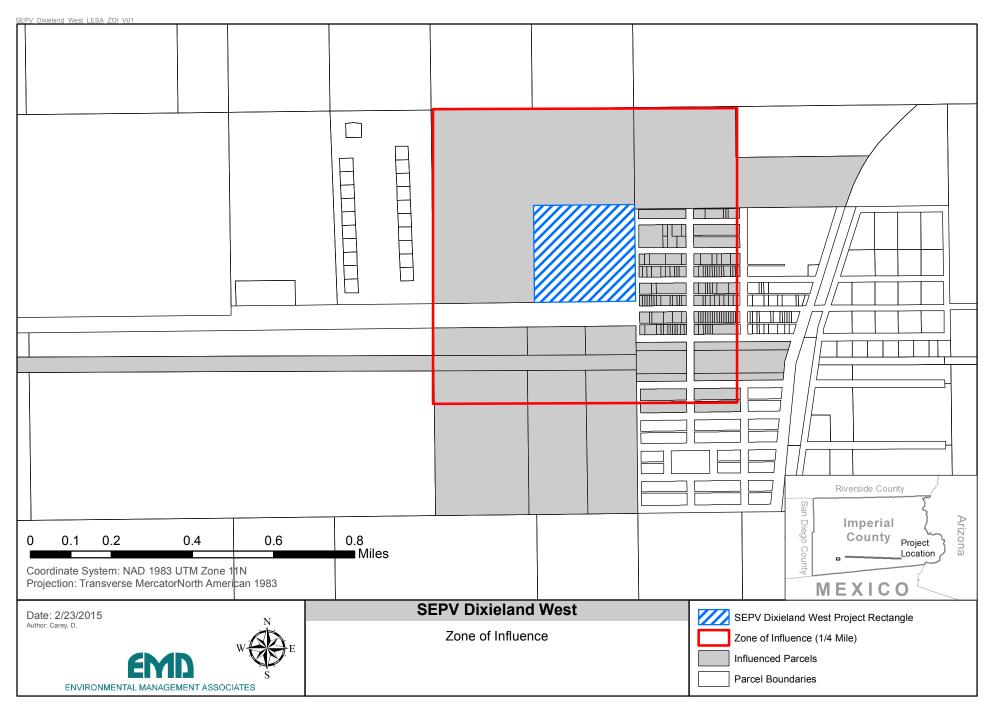
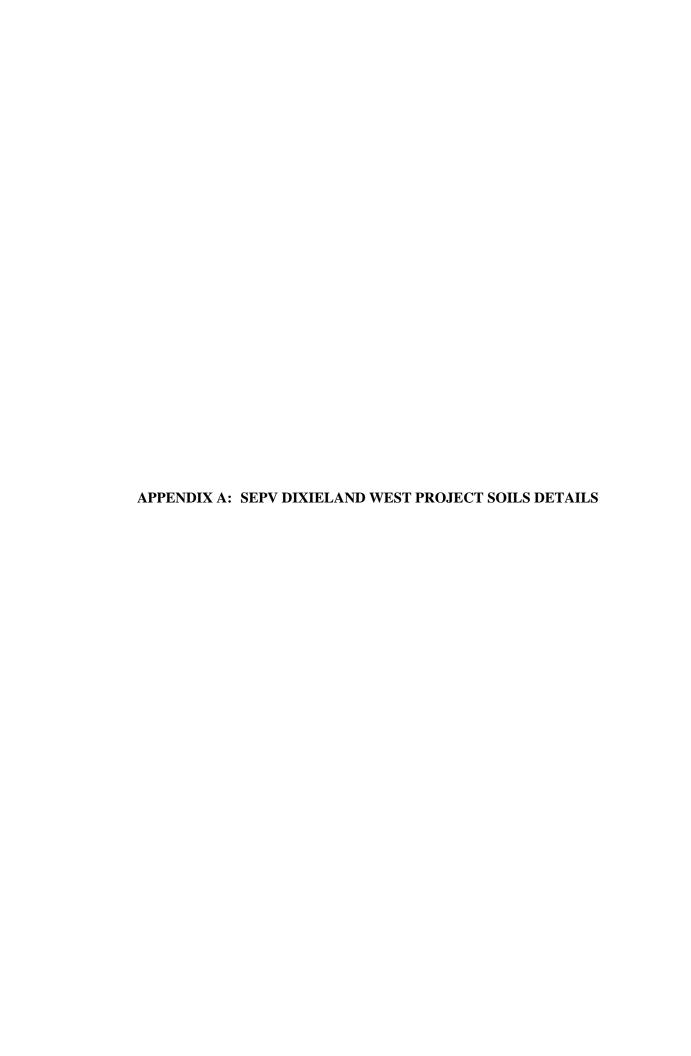


Figure 4 : Zone of Influence

Final LESA Score Sheet				California LESA Model Scoring Thresholds			
	Factor Scores	Factor Weight	Weighted Factor Scores		Total LESA Score	Scoring Decision	
LE Factors							
Land Capability Classification	10.00	0.25	2.50		0 to 39 Points	Not Considered Significant	
Storie Index	48.75	0.25	12.19		0 10 39 F011113	INOL CONSIDERED SIGNIFICANT	
LE subtotal		0.50	14.69				
SA Factors						Considered Significant only if LE and SA subscores are	
Project Size	0	0.15	0.00		40 10 39 F011113	each greater than or equal to 20 points	
Water Resource Availability	0	0.15	0.00				
Surrounding Agricultural Land	0	0.15	0.00		60 to 79 Points	Considered Significant unless either LE or SA subscore	
Protected Resource Land	0	0.05	0.00		00 10 79 FOII 113	is <u>less</u> than 20 points	
SA Subtotal		0.50	0.00				
		Total LESA Score	14.69		80 to 100 Points	Considered Significant	



Imperial County, California, Imperial Valley Area

119—Indio-Vint complex

Map Unit Setting

National map unit symbol: h8zt Elevation: -230 to 300 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Prime farmland if irrigated

Map Unit Composition

Indio and similar soils: 35 percent Vint and similar soils: 30 percent Minor components: 35 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Indio

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed and/or eolian deposits

derived from mixed

Typical profile

H1 - 0 to 12 inches: loam

H2 - 12 to 72 inches: stratified loamy very fine sand to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.57 to 1.98 in/hr) Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to

4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 7e



Hydrologic Soil Group: B

Description of Vint

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium and/or eolian deposits derived from mixed

Typical profile

H1 - 0 to 10 inches: loamy fine sand H2 - 10 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to

very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (2.0 to

4.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 5.0

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 2s Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Minor Components

Meloland

Percent of map unit: 12 percent

Holtville

Percent of map unit: 12 percent

Rositas

Percent of map unit: 11 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 7, Sep 9, 2014

Imperial County, California, Imperial Valley Area

121—Meloland fine sand

Map Unit Setting

National map unit symbol: h8zw Elevation: -230 to 300 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Meloland and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Meloland

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed and/or eolian deposits

derived from mixed

Typical profile

H1 - 0 to 12 inches: fine sand

H2 - 12 to 26 inches: stratified loamy fine sand to silt loam

H3 - 26 to 71 inches: clay

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very low

to moderately low (0.00 to 0.06 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Slightly saline to moderately saline (8.0

to 16.0 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 13.0

Available water storage in profile: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): 3s Land capability classification (nonirrigated): 7e Hydrologic Soil Group: D

Minor Components

Niland

Percent of map unit: 4 percent

Glenbar

Percent of map unit: 4 percent

Meloland

Percent of map unit: 4 percent

Rositas

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 7, Sep 9, 2014

Imperial County, California, Imperial Valley Area

130—Rositas sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: h905 Elevation: -230 to 310 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 72 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Rositas and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Rositas

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 27 inches: sand H2 - 27 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to

very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 3 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (2.0 to

4.0 mmhos/cm)

Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 4s Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Minor Components

Carsitas

Percent of map unit: 4 percent

Vint

Percent of map unit: 4 percent

Rositas

Percent of map unit: 4 percent

Niland

Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 7, Sep 9, 2014

Imperial County, California, Imperial Valley Area

132—Rositas fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: h907 Elevation: -230 to 350 feet

Mean annual precipitation: 0 to 3 inches

Mean annual air temperature: 70 to 75 degrees F

Frost-free period: 300 to 350 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Rositas and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the

mapunit.

Description of Rositas

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from mixed and/or eolian deposits

derived from mixed

Typical profile

H1 - 0 to 9 inches: fine sand H2 - 9 to 60 inches: sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat excessively drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High to

very high (5.95 to 19.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 5 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (2.0 to

4.0 mmhos/cm)

Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): 3s Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: A

Minor Components

Niland

Percent of map unit: 4 percent

Rositas

Percent of map unit: 4 percent

Vint

Percent of map unit: 4 percent

Antho

Percent of map unit: 1 percent

Holtville

Percent of map unit: 1 percent

Superstition

Percent of map unit: 1 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 7, Sep 9, 2014

California Revised Storie Index (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index assesses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 is determined for each factor, and the scores are multiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 81 to 100; grade 2 (good), 61 to 80; grade 3 (fair), 41 to 60; grade 4 (poor), 21 to 40; grade 5 (very poor), 11 to 20; and grade 6 (nonagricultural), 10 or less.

Report—California Revised Storie Index (CA)

California Revised Storie Index (CA)–Imperial County, California, Imperial Valley Area					
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (ie Index (CA)		
		Rating class	Value		
119—Indio-Vint complex					
Indio	35	Grade 1 - Excellent	96		
Vint	30	Grade 1 - Excellent	84		
121—Meloland fine sand					
Meloland	85	Grade 3 - Fair	54		
130—Rositas sand, 0 to 2 percent slopes					
Rositas	85	Grade 3 - Fair	47		
132—Rositas fine sand, 0 to 2 percent slopes					
Rositas	85	Grade 3 - Fair	51		

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area

Survey Area Data: Version 7, Sep 9, 2014

Air Quality/Greenhouse Gas Report

SEPV (Dixieland East & West) Solar Project Imperial County



Prepared for:

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Prepared by:



308 San Dimas Avenue Oceanside, CA 92057

August 2015



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	IMPACT		
	IMPACT		
	IMPACT	which the project region is nonattainment under an applicable federal or state ambient quality standard (including releasing emissions which exceed quantitative thresholds	nt air s for ozone
		precursors)?	
	IMPACT		
	IMPACT		
	IMPACT	8: Would the Project generate GHG emissions, either directly or indirectly, that may have significant impact on the environment?	
	IMPACT		the purpose
		or reducing the chinosions of orros:	



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APPENDIX A – Air Quality and GHG Calculations



Acronyms and Abbreviations

 $\mu g/m^3$ micrograms per cubic meter

A areawide

AAQS ambient air quality standard

AB Assembly Bill
AC alternating current

ADAM CARB's Aerometric Data Analysis and Management System

AP aggregated point

AQMP Imperial County Air Quality Management Plan

AQR Air Quality Report

AR4 4th Assessment Report

AVTD average vehicle trips per day

BACM Best Available Control Measure

BACT Best Available Control Technology

BAU business as usual

C2ES Center for Climate and Energy Solutions
CAAQS California Ambient Air Quality Standards
CalEEModTM California Emissions Estimator Model

CAQAR Comprehensive Air Quality Analysis Report
CARB California Air Resources Control Board

CAT Climate Action Team

CEQA California Environmental Quality Act

CFC chlorofluorocarbon

CH₄ methane

CNRA California Natural Resources Agency

CO carbon monoxide
CO₂ carbon dioxide

CO₂e carbon dioxide equivalent

County Imperial County

CTI California Toxic Inventory
CUP Conditional Use Permit
DESF Dixieland East Solar Farm
DPM diesel particulate matter
DWSF Dixieland West Solar Farm

EI emission inventory

EIR Environmental Impact Report

EMFAC Emission Factors model for on-road mobile sources
EPA United States Environmental Protection Agency

ESRL Earth System Research Laboratory

SEPV (Dixieland East and West) Solar Project, Imperial County

Acronyms and Abbreviations

FCAA Federal Clean Air Act

GHG greenhouse gas

GWP global warming potential

HFC hydrofluorocarbon

HRA Health Risk Assessment

ICAPCD Imperial County Air Pollution Control District

IID Imperial Irrigation District

IPCC International Panel on Climate Change

M million

Modified AQMP 2009 8-Hour Ozone "Modified" Air Quality Management Plan

MtCO₂e million tonnes of carbon dioxide equivalents

MW megawatt N natural

N₂O nitrous oxide

NAAQS National Ambient Air Quality Standards

NO nitric oxide

NO₂ nitrogen dioxide

NOAA National Oceanic and Atmospheric Administration

NO_X nitrogen oxides

OD

O&M operations and maintenance

onroad diesel

OG onroad gasoline
OMD offroad mobile diesel
OMG offroad mobile gasoline
OMO offroad mobile other
PFC perfluorocarbon
PM particulate matter

 PM_{10} respirable particulate matter of 10 micrometers or less in size $PM_{2.5}$ fine particulate matter of 2.5 micrometers or less in size

ppm parts per million
PV photovoltaic

RACM Reasonable Available Control Measures

RFP Reasonable Further Progress

ROG reactive organic gases

RPS Renewables Portfolio Standard SAR Second Assessment Report

SB Senate Bill

SCAQMD South Coast Air Quality Management District



Acronyms and Abbreviations

SEPV Project SEPV (Dixieland East and West) Solar Project

SF₆ sulfur hexafluoride

SIP State Implementation Plan

SP stationary point

SSAB Salton Sea Air Basin

t abbreviation for tonne (or metric ton)

TAC toxic air contaminants

tCO₂e tonne of carbon dioxide equivalents

TA Traffic Assessment

UNFCCC United Nations Framework Convention on Climate Change

URBEMIS Urban Emissions computer model

VDE Visible Dust Emissions
VMT Vehicle miles travelled
WRI World Resources Institute



SECTION 1.0 – INTRODUCTION

1.1. Report Purpose

The purpose of this Air Quality Report (AQR) is to analyze the potential air quality and climate change impacts that could occur with the construction and operation of the SEPV (Dixieland East and West) Solar Project (SEPV Project), in Imperial County, California. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000 et seq.). The methodology follows the CEQA Air Quality Handbook¹ prepared by the Imperial County Air Pollution Control District (ICAPCD) for quantification of emissions and evaluation of potential impacts to air resources.

1.2. Project Location

The SEPV Project site will be approximately 12 miles west of the City of El Centro, California in the Dixieland area in unincorporated Imperial County (County). The southern-most boundary of the SEPV Project site borders West Evan Hewes Highway and the geographic center of the project area roughly corresponds with existing Dixieland Substation at 32°47'41.70"N latitude, 115°46'36.50"W longitude. Two separate Conditional Use Permit (CUP) applications have been filed with the County, which together define the SEPV Project. The first CUP represents the Dixieland East Solar Farm (DESF), which is located in Township 16 South, Range 12 East, Section 7, and the second CUP represents the Dixieland West Solar Farm (DWSF), which is located in Township 16 South, Range 11 East, Section 12 (San Bernardino Baseline and Meridian). DESF borders the Westside Main Canal and DWSF is approximately 1,500 feet from the Imperial Lakes Estates to the west.

1.3. Project Description

The SEPV Project is located on privately owned, undeveloped, but partially disturbed, land encompassing approximately 50 acres. The proposed project is the development of two solar energy facilities in Imperial County, California collectively known as the SEPV Project, which combined will be capable of producing up to 5 megawatts (MW) of electricity. The gross acreage and proposed size in MW for each facility is presented in Table 1.

Site Name	Abbr.	Gross Acreage	Size (MW)
Dixieland East Solar Farm	DESF	24	2
Dixieland West Solar Farm	Dixieland West Solar Farm DWSF		3
TOTAL	53	5	

Table 1 – SEPV Project Components

The SEPV Project would consist of the construction and operation of two photovoltaic (PV) solar energy facilities and supporting uses. The facilities would employ the use of PV power systems to convert solar energy into electricity using non-reflective technology. The major components of the facilities are PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert the electricity from the direct current electricity generated by the PV modules to alternating current (AC) electricity and transfer the AC electricity to

¹ CEQA Air Quality Handbook: Guidelines for the Implementation of the California Air Quality Act of 1970, and amended. Imperial County Air Pollution Control District, November 2007.

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Imperial Irrigation District (IID's) existing Dixieland Substation. Ancillary equipment includes switch/fuse panels, control and protection equipment, communications hardware, and meteorological data equipment. Additional auxiliary facilities would include lighting and security systems.

At build-out, the SEPV Project would facilitate the generation of up to 5 MW of AC on a daily basis. The SEPV Project would be designed to generate electricity during the daylight hours when local electricity demand from IID customers is typically at its peak.



SECTION 2.0 – EXISTING CONDITIONS

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the air basin, and its meteorological conditions. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollution emissions and air quality.

2.1. Climatology/ Meteorology

Meteorology is the study of weather and climate. Weather refers to the state of the atmosphere at a given time and place with regard to temperature, air pressure, humidity, cloudiness, and precipitation. The term "weather" refers to conditions over short periods; conditions over long periods, generally at least 30 to 50 years, are referred to as climate. Climate, in a narrow sense, is usually defined as the "average weather," or more rigorously as the statistical description in terms of the mean and variability of relevant quantities over a period ranging from months to thousands or millions of years. These quantities are most commonly surface variables such as temperature, precipitation, and wind.

Climatic conditions in Imperial County are governed by the large-scale sinking and warming of air in the semipermanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most mid-latitude storms except in winter when the high is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the weakened storms and barrier, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall. The flat terrain of the valley and the strong temperature differentials created by intense solar heating, produce moderate winds and deep thermal convection.

The combination of subsiding air, protective mountains, and distance from the ocean all combine to limit precipitation severely. Rainfall is highly variable with precipitation from a single heavy storm sometimes exceeding the entire annual total during a later drought condition.

Imperial County enjoys a year-round climate characterized by a temperate fall, winter, and spring and a harsh summer. Humidity often combines with the valley's normal high temperatures to produce a moist, tropical atmosphere that frequently seems hotter than the thermometer suggests. The sun shines, on the average, more in the Imperial County that anywhere else in the United States.

2.1.1 <u>Temperature and Precipitation</u>

The nearest National Weather Service Cooperative Observer Program weather station to the project is the station In El Centro called El Centro 2 SSW, located approximately 12.5 miles north-northeast of the Project. At the El Centro 2 SSW ², average recorded rainfall during the Period of Record (1932 to 2015) measured 2.64 inches, with 93 percent of precipitation occurring between August and March and 45 percent in just December through February. Monthly average maximum temperatures at this station vary annually by 38.1 degrees Fahrenheit (°F); 108.0 °F at the hottest to 69.9 °F at the coldest and monthly average minimum temperatures vary by 36.2 °F annually; i.e. from 40.1 °F to 76.3 °F. In fact, this station shows that the months of June, July, August, and September have monthly maximum temperatures greater than 100 °F

Western U.S. Climate Historical Summaries. Western Regional Climate Center. http://www.wrcc.dri.edu/Climsum.html. Accessed July 2015.



2.1.2 Humidity

Humidity in Imperial County is typically low throughout the year, ranging from 28 percent in summer to 52 percent in winter. The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50-60 percent, but drop to about 10 percent during the day. Summer weather patterns are dominated by intense heat induced low-pressure areas that form over the interior desert.

2.1.3 Wind

The wind direction follows two general patterns. The first pattern occurs seasonally from fall through spring, where prevailing winds are from the west and northwest. Most of these winds originate in the Los Angeles Basins. The Imperial County area occasionally experiences periods of high winds. Wind speeds exceeding 31 mph occur most frequently in April and May. On an annual basis, strong winds, those exceeding 31 mph, are observed 0.6% of the time, where speeds of less than 6.8 mph account for more than one-half of the observed winds. Wind statistics indicate prevailing winds are from the west-northwest through southwest; however, a secondary flow pattern from the southeast is also evident.

2.1.4 <u>Inversions</u>

Air pollutant concentrations are primarily determined by the amount of pollutant emissions in an area and the degree to which these pollutants are dispersed in the atmosphere. The stability of the atmosphere is one of the key factors affecting pollutant dispersion. Atmospheric stability regulates the amount of vertical and horizontal air exchange, or mixing, that can occur within a given air basin. Horizontal mixing is a result of winds, as discussed above, but vertical mixing also affects the degree of stability in the atmosphere. An interruption of vertical mixing is called inversions.

In the atmosphere, air temperatures normally decrease as altitude increases. At varying distances above the earth's surface, however, a reversal of this gradient can occur. This condition, termed an inversion, is simply a warm layer of air above a layer of cooler air, and it has the effect of limiting the vertical dispersion of pollutants. The height of the inversion determines the size of the vertical mixing volume trapped below. Inversion strength or intensity is measured by the thickness of the layer and the difference in temperature between the base and the top of the inversion. The strength of the inversion determines how easily it can be broken by winds or solar heating.

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken allowing pollutants to disperse more easily. Weak, surface inversions are caused by radiational cooling of air in contact with the cold surface of the earth at night. In valleys and low-lying areas, this condition is intensified by the addition of cold air flowing down slope from the hills and pooling on the valley floor.

The presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the buildup of pollutants. Highest or worst-case ozone levels are often associated with the presence of this type of inversion.

2.2. Local Air Quality Conditions

2.2.1 Criteria Air Pollutants

As required by the Federal Clean Air Act (FCAA), the Environmental Protection Agency (EPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide,



suspended particulate matter (PM), and lead. Suspended PM has standards for both PM with an aerodynamic diameter of 10 micrometers or less (respirable PM, or PM₁₀) and PM with an aerodynamic diameter of 2.5 micrometers or less (fine PM, or PM_{2.5}). The California Air Resources Board (CARB) has established separate standards for the State, i.e. the California Ambient Air Quality Standards (CAAQS). CARB established CAAQS for all the federal pollutants and sulfates, hydrogen sulfide, and visibility-reducing particles.

For some of the pollutants, the identified air quality standards are expressed in more than one averaging time in order to address the typical exposures found in the environment. For example, carbon monoxide (CO) is expressed as a one-hour averaging time and an eight-hour averaging time. Regulations have set NAAQS and CAAQS limits in parts per million (ppm) or micrograms per cubic meter (μ g/m³). The standards are presented in Table 2 and the following text provides descriptions and health effects of each.

2.2.1.1 Ozone

Ozone is not emitted directly to the atmosphere, but is formed by photochemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight. The long, hot, humid days of summer are particularly contributing to ozone formation, thus, ozone levels are of concern primarily during the months of May through September.

- Reactive organic gases (ROG) are defined as any compound of carbon, excluding CO, carbon dioxide (CO₂), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions. It should be noted that there are no State or national ambient air quality standard for ROG because ROGs are not classified as criteria pollutants. They are regulated, however, because a reduction in ROG emissions reduces certain chemical reactions that contribute to the formulation of ozone. ROGs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM₁₀ and lower visibility.
- Nitrogen oxides (NO_x) serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and NO₂. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO₂ is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_x is an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which an ambient air quality standard (AAQS) has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more AAQSs. When NO_x and ROG are released in the atmosphere, they can chemically react with one another in the presence of sunlight to form ozone.

Ozone is a strong chemical oxidant that adversely affects human health through effects on respiratory function. Ozone can also damage forests and crops. Ozone is not emitted directly by industrial sources or motor vehicles but instead, is formed in the lower atmosphere, the troposphere. Ozone is formed by a complex series of chemical reactions involving NO_X, the result of combustion processes and evaporative ROGs such as industrial solvents, toluene, xylene, and hexane as well as the various hydrocarbons that are evaporated from the gasoline used by motor vehicles or emitted through the tailpipe following combustion. Additionally, ROGs are emitted by natural sources such as trees and crops. Ozone formation is promoted by strong sunlight, warm temperatures, and winds. High concentrations tend to be a problem in the Imperial County only during the hot summer months when these conditions frequently occur.



2.2.1.2 Particulate matter (PM)

PM is a general term used to describe a complex group of airborne solid, liquid, or semi-volatile materials of various size and composition. Primary PM is emitted directly into the atmosphere from both human activities (including agricultural operations, industrial processes, construction and demolition activities, and entrainment of road dust into the air) and non-anthropogenic activities (such as windblown dust and ash resulting from forest fires). Secondary PM is formed in the atmosphere from predominantly gaseous combustion by-product precursors, such as sulfur oxides and NO_X, and ROGs. The overwhelming majority of airborne PM in Imperial County is primary PM. The major source of primary PM is fugitive windblown dust, with other contributions from entrained road dust, farming, and construction activities.

Particle size is a critical characteristic of PM that primarily determines the location of PM deposition along the respiratory system (and associated health effects) as well as the degradation of visibility through light scattering. In the United States, federal and state agencies have established two types of PM air quality standards as shown in Table 2. PM_{10} corresponds to the fraction of PM no greater than 10 microns in aerodynamic diameter and is commonly called respirable particulate matter, while $PM_{2.5}$ refers to the subset of PM_{10} of aerodynamic diameter smaller than 2.5 microns, which is commonly called fine particulate matter.

PM air pollution has undesirable and detrimental environmental effects. PM affects vegetation, both directly (e.g. deposition of nitrates and sulfates may cause direct foliar damage) and indirectly (e.g. coating of plants upon gravitational settling reduces light absorption). PM also accumulates to form regional haze, which reduces visibility due to scattering of light. Agencies concerned with haze include the National Park Service, the U.S. Forest Service, the Western Regional Air Partnership, and the Western States Air Resources Council.

 PM_{10} is respirable, with fine and ultrafine particles reaching the alveoli deep in the lungs, and larger particles depositing principally in the nose and throat area. PM_{10} deposition in the lungs results in irritation that triggers a range of inflammation responses, such as mucus secretion and bronchoconstriction, and exacerbates pulmonary dysfunctions, such as asthma, emphysema, and chronic bronchitis. Sufficiently small particles may penetrate into the bloodstream and impact functions such as blood coagulation, cardiac autonomic control, and mobilization of inflammatory cells from the bone marrow. Individuals susceptible to higher health risks from exposure to PM_{10} airborne pollution include children, the elderly, smokers, and people of all ages with low pulmonary/ cardiovascular function. For these individuals in particular, adverse health effects of PM_{10} pollution include coughing, wheezing, shortness of breath, phlegm, bronchitis, and aggravation of lung or heart disease, leading for example to increased risks of hospitalization and mortality from asthma attacks and heart attacks.

2.2.1.3 Other Criteria Pollutants

The standards for other criteria pollutants are either being met or are unclassified in the Salton Sea Air Basin (SSAB) and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future.

2.2.2 Pollutant Transport

As stated above, ozone is a "secondary" pollutant, formed in the atmosphere by reactions between NO_X and ROG. These reactions are driven by sunlight and proceed at varying rates. Transport is the movement of ozone or the pollutants that form ozone from one area (known as the upwind area) to another area (known as the downwind area). Pollutant transport is a very complex phenomenon. Sometimes transport is a straightforward matter of wind blowing from one area to another at ground level, carrying ozone with it, but usually it is not that simple. Transport is three-dimensional; it can take place at the surface, or high above the ground. Meteorologists use the terms "surface" and "aloft" to distinguish these two cases. Often, winds can blow in different directions at different heights above the ground. To complicate matters further, winds can shift during the day, pushing a polluted air mass first one way,



then another. Finally, because ozone and ozone forming emissions from an upwind area can mix with locally generated ozone and locally generated emissions, it is often difficult to determine the origin of the emission causing high pollution levels. Political boundaries do not prevent transport of pollutants. Transport over distances of several hundred miles has often been documented in California.

Table 2 - National and State Ambient Air Quality Standards³

Air Pollutant	Averaging Time	California Standard	National Standard
Ozone	1 hour 8 hour	0.09 ppm 0.070 ppm	0.075 ppm
Respirable particulate matter (PM ₁₀)			150 μg/m ³
Fine particulate matter (PM _{2.5})	24 hour Mean	 12 μg/m³	35 μg/m³ 12.0 μg/m³
Carbon monoxide (CO)	bon monoxide (CO) 1 hour 20 ppm 8 hour 9.0 ppm		35 ppm 9 ppm
Nitrogen dioxide (NO ₂)	1 hour Mean	0.18 ppm 0.030 ppm	100 ppb 0.053 ppm
Sulfur dioxide (SO ₂)	1 hour 24 hour	0.25 ppm 0.04 ppm	75 ppb —
Lead	30-day Rolling 3-month	1.5 μg/m ³ —	0.15 μg/m ³
Sulfates	24 hour	25 μg/m ³	
Hydrogen sulfide	1 hour	0.03 ppm	
Vinyl chloride	24 hour	0.01 ppm	No Federal
Visibility-reducing particles	8 hour	Extinction coefficient of 0.23 per kilometer, visibility of ten miles or more due to particles when relative humidity is less than 70%.	Standard

Abbreviations:

ppm = parts per million ppb = parts per billion 30-day = 30-day average

 $\mu g/m^3 = micrograms per cubic meter$ Mean = Annual Arithmetic Mean

The accurate determination of the impacts of transport requires detailed technical analyses in conjunction with modeling studies. The Imperial County Air Quality Management Plan⁴ (AQMP) identifies how the transport of emissions and pollutants from Mexico and other areas (South Coast and San Diego) influences ozone violations

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Ambient Air Quality Standards. California Air Resources Board. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed July 2015.

Final 2009 1997 8-Hour Modified Air Quality Management Plan. Imperial County Air Pollution Control District. July 13, 2010.



within Imperial County. Although the Imperial County is currently in attainment of the 1997 8-hour ozone NAAQS, it is important to note that any future analysis of air emissions impacting Imperial County must take into consideration the influence of transport from three distinct sources, that of the South Coast Air Basin via the Coachella Valley to the north, the San Diego Air Basin to the west and the international city of Mexicali, Mexico to the south.

2.2.3 Toxic Air Contaminants

In addition to the above-listed criteria pollutants, toxic air contaminants (TACs) are another group of pollutants of concern. Assembly Bill (AB) 1807⁵ sets forth a procedure for the identification and control of TAC in California defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Almost 200 compounds have been designated as TACs in California. The ten TACs posing the greatest known health risk in California, based primarily on ambient air quality data, are acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, formaldehyde, methylene chloride, para-dichlorobenzene, perchloroethylene, and diesel particulate matter (DPM).

TACs do not have ambient air quality standards. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure.

Since 2004, CARB has maintained the California Toxic Inventory (CTI), which provides emissions estimates by stationary point (SP) and aggregated point (AP); areawide (A); onroad gasoline (OG) and onroad diesel (OD); offroad mobile gasoline (OMG); offroad mobile diesel (OMD); and offroad mobile other (OMO); and natural sources (N). Stationary sources include point sources provided by facility operators and/or districts pursuant to the Air Toxics "Hot Spots" Program (AB 2588), and aggregated point sources estimated by CARB and/or districts. Areawide sources are those that do not have specific locations and are spread out over large areas such as consumer products and unpaved roads. Mobile sources consist of onroad vehicles such as passenger cars and trucks, motorcycles, busses, and heavy-duty trucks. Offroad sources include trains, ships, and boats. Natural sources like wildfires are also included.

The top three contributors of the potential cancer risk come primarily from motor vehicles - DPM, 1,3 butadiene, and benzene. Cleaner motor vehicles and fuels are reducing the risks from these priority toxic air pollutants. The remaining toxic air pollutants, such as hexavalent chromium and perchloroethylene, while not appearing to contribute as much to the overall risks, can present high risks to people living close to a source. CARB has control measures that are either already on the books, in development, or under evaluation for most of the remaining top ten, where actions are suitable through our motor vehicle, consumer products, or industrial source programs. Of these top ten, carbon tetrachloride is unique in that most of the health risk from this toxic air pollutant is not attributable to specific sources, but rather to background concentrations. Emissions from the top ten TACs in Imperial County in 2010 are presented in Table 3.

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Enacted in September 1983. Health and Safety Code section 39650 et seq., Food and Agriculture Code Section 14021 et seq.



Table 3 - 2010 TAC	Emissions ⁶ in I	mperial County	(tons	per v	vear)	١
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Toxic Air Contaminant	SP	AP	Α	OD	OG	OMG	OMD	омо	N	Total
Diesel particulate matter (DPM)	7.608	3.906	0.000	136.542			17.299			165.356
1,3-Butadiene	0.000	0.022	7.835	0.322	6.523	5.025	0.760	1.423	0.137	22.048
Benzene	52.548	2.779	0.134	3.393	31.156	21.806	8.002	1.502		121.319
Acetaldehyde	0.183	0.861	1.203	12.468	4.678	5.933	29.406	3.570	856.92	915.219
Hexavalent Chromium	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.004
para-Dichlorobenzene	0.000		5.883							5.883
Formaldehyde	0.795	5.512	1.559	24.952	17.192	18.162	58.851	10.277		137.302
Methylene Chloride	0.096	1.786	7.905							9.787
Perchloroethylene	0.000	11.522	6.697							18.220
Carbon Tetrachloride									>0.001	>0.001

Note: SP = stationary point

OD = onroad diesel

OMD = offroad mobile gasoline

AP = aggregated point

 $OG = onroad\ gasoline$

OMO = offroad mobile other

A = areawide

 $OMO = offroad\ mobile\ diesel$

N = natural

2.2.4 Sensitive Receptors

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These people include children, the elderly, and persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather are defined as sensitive receptors by ICAPCD.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

The SEPV Project is in a remote location with no nearby schools and the only residences in the Imperial Lakes Estates, approximately 1,500 feet from the western boundary.

2.3. Greenhouse Gases

Constituent gases that trap heat in the Earth's atmosphere are called greenhouse gases (GHGs), analogous to the way a greenhouse retains heat. GHGs play a critical role in the Earth's radiation budget by trapping infrared radiation

California Toxics Inventory – Draft 2010 CTI Summary Table. California Air Resources Board. (November 2013. http://www.arb.ca.gov/toxics/cti/cti.htm. Accessed March 2015.



emitted from the Earth's surface, which would otherwise have escaped into space. Prominent GHGs contributing to this process include CO₂, methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons (CFCs). Without the natural heat-trapping effect of GHG, the earth's surface would be about 34 °F cooler⁷. This is a natural phenomenon, known as the "Greenhouse Effect," is responsible for maintaining a habitable climate. However, anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the "Greenhouse Effect", and have led to a trend of unnatural warming of the Earth's natural climate known as global warming or climate change, or more accurately Global Climate Disruption. Emissions of these gases that induce global climate disruption are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors.

The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere. Individual GHG compounds have varying GWP and atmospheric lifetimes. The reference gas for the GWP is CO₂; CO₂ has a GWP of one. The calculation of the CO₂ equivalent (CO₂e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. CH₄'s warming potential of 25 indicates that CH₄ has a 25 times greater warming affect than CO₂ on a molecular basis. The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. The time period usually used for GWPs is 100 years. GWPs for the three GHGs produced by the SEPV Project are presented in Table 4. A CO₂e is the mass emissions of an individual GHG multiplied by its GWP. GHGs are often presented in units called tonnes (t) (i.e. metric tons) of CO₂e (tCO₂e).

 GWP for 100-year time horizon

 Second assessment report (SAR)9
 4th assessment report (AR4)10

 Carbon dioxide (CO2)
 1
 1

 Methane (CH4)
 21
 25

 Nitrous oxide (N2O)
 310
 298

Table 4 - Global Warming Potentials8

Note: Current protocol is to use the 4th assessment values, however, the second assessment report values are also provided since they are the values used by many inventories and public documents.

Carbon Dioxide (CO₂) is a colorless, odorless gas consisting of molecules made up of two oxygen atoms and one carbon atom. CO₂ is produced when an organic carbon compound (such as wood) or fossilized organic matter, (such as coal, oil, or natural gas) is burned in the presence of oxygen. CO₂ is removed from the atmosphere by

Climate Action Team Report to Governor Schwarzenegger and the California Legislature. California Environmental Protection Agency, Climate Action Team. March 2006.

Global Warming Potentials. Greenhouse Gas Protocol. World Resources Institute and World Business Council on Sustainable Development. http://www.ghgprotocol.org/files/ghgp/tools/Global-Warming-Potential-Values.pdf. Accessed May 2015.

Second Assessment Report. Climate Change 1995: WG I - The Science of Climate Change. Intergovernmental Panel on Climate Change. 1996

Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. 2007



CO₂ "sinks", such as absorption by seawater and photosynthesis by ocean-dwelling plankton and land plants, including forests and grasslands. However, seawater is also a source of CO₂ to the atmosphere, along with land plants, animals, and soils, when CO₂ is released during respiration. Whereas the natural production and absorption of CO₂ is achieved through the terrestrial biosphere and the ocean, humankind has altered the natural carbon cycle by burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, each of these activities has increased in scale and distribution. Prior to the industrial revolution, concentrations CO₂ were stable at a range of 275 to 285 ppm¹¹. The National Oceanic and Atmospheric Administration (NOAA's) Earth System Research Laboratory (ESRL)¹² indicates that global concentration of CO₂ were 396.72 ppm in April 2013. In addition, the CO₂ levels at Mauna Loa¹³ averaged over 400 ppm for the first time during the week of May 26, 2013. These concentrations of CO₂ exceed by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores.

Methane (CH₄) is a colorless, odorless non-toxic gas consisting of molecules made up of four hydrogen atoms and one carbon atom. CH₄ is combustible, and it is the main constituent of natural gas-a fossil fuel. CH₄ is released when organic matter decomposes in low oxygen environments. Natural sources include wetlands, swamps and marshes, termites, and oceans. Human sources include the mining of fossil fuels and transportation of natural gas, digestive processes in ruminant animals such as cattle, rice paddies and the buried waste in landfills. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH₄. Other anthropogenic sources include fossil-fuel combustion and biomass burning.

Nitrous Oxide (N_2O) is a colorless, non-flammable gas with a sweetish odor, commonly known as "laughing gas", and sometimes used as an anesthetic. N_2O is naturally produced in the oceans and in rainforests. Man-made sources of N_2O include the use of fertilizers in agriculture, nylon and nitric acid production, cars with catalytic converters and the burning of organic matter. Concentrations of N_2O also began to rise at the beginning of the industrial revolution.

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically un-reactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source but were first synthesized in 1928. It was used for refrigerants, aerosol propellants, and cleaning solvents. Because of the discovery that they are able to destroy stratospheric ozone, an ongoing global effort to halt their production was undertaken and has been extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons (**HFCs**) are synthesized chemicals that are used as a substitute for CFCs. Out of all of the GHGs; HFCs are one of three groups with the highest GWP. HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes

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Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Trends in Atmospheric Carbon Dioxide. Earth System Research Laboratory. National Oceanic and Atmospheric Administration. http://www.esrl.noaa.gov/gmd/ccgg/trends/global.html. Accessed June 2013.

¹³ ibid



in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride (SF₆) is an extremely potent greenhouse gas. SF₆ is very persistent, with an atmospheric lifetime of more than a thousand years. Thus, a relatively small amount of SF₆ can have a significant long-term impact on global climate change. SF₆ is human-made, and the primary user of SF₆ is the electric power industry. Because of its inertness and dielectric properties, it is the industry's preferred gas for electrical insulation, current interruption, and arc quenching (to prevent fires) in the transmission and distribution of electricity. SF₆ is used extensively in high voltage circuit breakers and switchgear, and in the magnesium metal casting industry.

2.3.1 GHG Emission Levels

According to the World Resources Institute¹⁴ (WRI) in 2005, total worldwide GHG emissions were estimated to be 37,797 million (M) t of CO₂e (MtCO₂e) and GHG emissions per capita worldwide was 5.9 tCO₂e. These emissions exclude GHG emissions associated with the land use, land-use change, and forestry sector and bunker fuels. The WRI reports that in 2009, total GHG emissions in the U.S. were 6,469 MtCO₂e, with average GHG emissions per capita of 21.09 tCO₂e and total GHG emissions in California were 446.07 MtCO₂e, with average GHG emissions per capita of 12.07 tCO₂e.

California has a larger percentage of its total GHG emissions coming from the transportation sector (50%) than the U.S. emissions (29%) and a smaller percentage of its total GHG emissions from the electricity generation sector, i.e. California have 11 percent but the U.S. has 32 percent.

2.3.2 <u>Potential Environmental Effects</u>

Worldwide, average temperatures are likely to increase by 3 °F to 7 °F by the end of the 21st century¹⁵. However, a global temperature increase does not directly translate to a uniform increase in temperature in all locations on the earth. Regional climate changes are dependent on multiple variables, such as topography. One region of the Earth may experience increased temperature, increased incidents of drought, and similar warming effects, whereas another region may experience a relative cooling. According to the International Panel on Climate Change's (IPCC's) Working Group II Report¹⁶, climate change impacts to North America may include diminishing snowpack, increasing evaporation, exacerbated shoreline erosion, exacerbated inundation from sea level rising, increased risk and frequency of wildfire, increased risk of insect outbreaks, increased experiences of heat waves, and rearrangement of ecosystems, as species and ecosystem zones shift northward and to higher elevations.

2.3.3 California Implications

Even though climate change is a global problem and GHGs are global pollutants, the specific potential effects of climate change on California have been studied. The third assessment produced by the California Natural Resources

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¹⁴ Climate Analysis Indicators Tool. International Dataset. World Resources Institute. http://www.wri.org/tools/cait/. Accessed June 2013.

Climate Change 2007: Impacts, Adaptation, and Vulnerability. Website http://www.ipcc.ch/ipccreports/ar4-wg2.htm. Accessed March 2013.

^{l6} ibid



Agency (CNRA)¹⁷ explores local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts. Projected changes for the remainder of this century in California include:

- Temperatures By 2050, California is projected to warm by approximately 2.7 °F above 2000 averages, a
 threefold increase in the rate of warming over the last century and springtime warming a critical influence on
 snowmelt will be particularly pronounced.
- Rainfall Even though model projections continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability, improved climate models shift towards drier conditions by the mid-to-late 21st century in Central, and most notably, Southern California.
- Wildfire Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning, with human activities continuing to be the biggest factor in ignition risk. Models are showing that estimated that property damage from wildfire risk could be as much as 35 percent lower if smart growth policies were adopted and followed than if there is no change in growth policies and patterns.

The third assessment by CNRA not only defines projected vulnerabilities to climatic changes but analyzes potential impacts from adaptation measures used to minimize harm and take advantage of beneficial opportunities that may arise from climate change.

The report highlights important new insights and data, using probabilistic and detailed climate projections and refined topographic, demographic, and land use information. The findings include:

- The state's electricity system is more vulnerable than was previously understood.
- The Sacramento-San Joaquin Delta is sinking, putting levees at growing risk.
- Wind and waves, in addition to faster rising seas, will worsen coastal flooding.
- Animals and plants need connected "migration corridors" to allow them to move to habitats that are more suitable to avoid serious impacts.
- Native freshwater fish are particularly threatened by climate change.
- Minority and low-income communities face the greatest risks from climate change.

2.4. Baseline Conditions

2.4.1 Local Ambient Air Quality

Existing levels of ambient air concentrations and historical trends and projections in the project area are best documented by measurements made by the ICAPCD and CARB. Imperial County began its ambient air monitoring in 1976; however, monitoring of ozone began in 1986 at the El Centro monitoring station. Since that time, monitoring has been performed by the ICAPCD, CARB, and private industry. There are six monitoring sites in Imperial County from Niland to Calexico.

Our Changing Climate 2012: Vulnerability & Adaptation to the Increasing Risks from Climate Change in California. California Natural Resources Agency. July 2012 / CEC-500-2012-007



The nearest monitoring station to the SEPV Project site is approximately 12 miles east of the SEPV Project site. The El Centro-9th station is in El Centro at 150 9th Street. The station monitors ozone, PM_{2.5}, PM₁₀, CO, and NO₂. Table 5 summarizes 2009 through 2014 published monitoring data from the CARB's Aerometric Data Analysis and Management System (ADAM) for the El Centro-9th Station.

The monitoring data shows that the El Centro station demonstrated the general air quality problems of the Basin in it exceeded the State and federal ozone standards and the State PM_{10} standard in all six years. The federal PM_{10} standard was only exceeded in the year 2009 and the station only exceeded the federal $PM_{2.5}$ standard in 2009 and 2011. The State or federal CO standards were not exceeded and the CO monitor was removed after the 2012 year. This station exceeded the NO_2 federal standard in three of the six years.

Table 5 - Ambient Air Quality Monitoring Summary for El Centro-9th Station

Air Pollutant		Monitoring Year							
Ozone	2009	2010	2011	2012	2013	2014			
Max 1 Hour (ppm) Days > CAAQS (0.09 ppm)	0.111 9	0.122 3	0.103 5	0.111 9	0.110 7	0.101 2			
Max 8 Hour (ppm) Days > NAAQS (0.075 ppm) Days > CAAQS (0.070 ppm)	0.085 11 30	0.082 10 29	0.084 12 21	0.091 14 26	0.088 11 23	0.080 5 13			
Inhalable Particulate Matter (PM ₁₀)	2009	2010	2011	2012	2013	2014			
Max Daily California Measurement Days > NAAQS (150 μg/m³) Days > CAAQS (50 μg/m³)	233.7 2 17	70.2 0 5	80.3 0 9	72.1 0 6	114.7 0 10	118.9 0 15			
Fine Particulate Matter (PM _{2.5})	2009	2010	2011	2012	2013	2014			
Max Daily National Measurement Days > NAAQS (35 μg/m³)	37.7 1	19.9 0	54.4 2	26.4 0	30.0 0	27.5 0			
Carbon Monoxide (CO)	2009	2010	2011	2012	2013	2014			
Max 8 Hour (ppm) Days > NAAQS (9 ppm) Days > CAAQS (9.0 ppm)	3.20 0 0	5.61 0 0	9.01 0 0	3.64 0 0	N/A	N/A			
Nitrogen Dioxide (NO ₂)	2009	2010	2011	2012	2013	2014			
Max Hourly (ppb) Days > NAAQS (100 ppb) Days > CAAQS (0.18 ppm)	121.6 1 0	140.5 1 0	117.4 1 0	72.0 0 0	53.0 0 0	59.3 0 0			

Abbreviations:

> = exceed **Bold** = exceedance ppm = parts per million ppb = parts per billion CAAQS = California Ambient Air Quality Standard N/A = not available

 $\mu g/m^3 = micrograms \ per \ cubic \ meter$

NAAQS = National Ambient Air Quality Standard

2.4.2 <u>Local Emissions Inventory</u>

An emissions inventory is an account of the amount of air pollution generated by various emissions sources in a specified area. To estimate the sources and quantities of pollution, CARB, in cooperation with local air districts, other government agencies, and industry, maintains an inventory of California emission sources. Sources are subdivided into four major emission categories: mobile, stationary, area-wide, and natural sources.

Mobile sources include on-road sources and off-road mobile sources. The on-road emissions inventory, which includes automobiles, motorcycles, and trucks, is based on an estimation of population, activity, and emissions of



the on-road motor vehicles used in California. The off-road emissions inventory is based on an estimate of the population, activity, and emissions of various off-road equipment, including recreational vehicles, farm and construction equipment, lawn and garden equipment, forklifts, locomotives, commercial marine ships, and marine pleasure craft.

Stationary sources are large, fixed sources of air pollution, such as power plants, refineries, and manufacturing facilities. Stationary sources also include aggregated point sources. These include many small point sources, or facilities, that are not inventoried individually but are estimated as a group and reported as a single-source category. Examples include gas stations and dry cleaners. Each of the local air districts estimates the emissions for the majority of stationary sources within its jurisdiction.

Areawide sources include source categories associated with human activity that take place over a wide geographic area. Emissions from area-wide sources may be either from small, individual sources, such as residential fireplaces, or from widely distributed sources that cannot be tied to a single location, such as consumer products, and dust from unpaved roads or farming operations (such as tilling).

Natural, or non-anthropogenic, sources include source categories with naturally occurring emissions such as geogenic (e.g., petroleum seeps), wildfires, and biogenic emissions from plants.

2.4.2.1 <u>Imperial County Emissions Inventory</u>

Table 6 summarizes Imperial County's estimated 2015 projected emissions inventory (EI) for major categories of air pollutants presented in tons per day. Detailed breakdowns of the emissions sources and categories are available at CARB's website¹⁸.

2.4.2.2 <u>2015 Imperial County Projected Emission Inventory Summary</u>

Reactive organic gases (ROG)

Over 44 percent of the total ROG in Imperial County in 2015 is produced naturally, i.e. plant emissions. Anthropogenic, or human-caused, ROG emissions result primarily from incomplete fuel combustion and the evaporation of chemical solvents and fuels. In 2015, Imperial County is projected to have 34 percent of the anthropogenic ROG emissions was contributed by miscellaneous processes, primarily farming operations; approximately 27 percent will be contributed by solvent evaporation, such as pesticides and fertilizers and asphalt paving and roofing; 19 percent came from other mobile sources, primarily off-road recreational vehicles; and 12 percent came from on-road vehicles, predominantly light-duty cars and trucks.

Carbon monoxide (CO)

The primary source of CO in Imperial County in 2015 is projected to be from on-road motor vehicles, which will contribute 43 percent of the total CO. Other off-road engines and vehicles (such as off-road recreational vehicles and recreational boats, construction equipment, and aircraft) will contribute another 31 percent. Higher levels of CO generally occur in areas with heavy traffic congestion.

Nitrogen Oxides (NO_X)

A review of the projected 2015 EI shows that over 72 percent of the total NO_X emissions in Imperial County are projected to come from on- and off-road vehicles (41.2% from on-road and 30.3% from off-road). The largest

Almanac Emissions Projection Data. California Air Resources Board. http://www.arb.ca.gov/app/emsinv/. Accessed February 2014.



portion of on-road NO_X emissions come from heavy-duty diesel trucks (47.7% of the total for on-road). The largest contributors from off-road sources are trains (55.1% of total off-road NO_X).

Table 6 - Imperial County 2015 Estimated Annual Emissions

Emission Category	2015 Emissions in tons per day				
STATIONARY SOURCES	ROG	СО	NOx	PM ₁₀	PM _{2.5}
Fuel combustion	0.14	0.76	6.00	0.46	0.42
Waste disposal	0	0	0	0	0
Cleaning and surface coatings	0.74	0	0	0	0
Petroleum production and marketing	0.84	0	0	0	0
Industrial processes	0.01	0.01	0.03	4.66	1.15
AREAWIDE SOURCES	ROG	СО	NOx	PM ₁₀	PM _{2.5}
Solvent evaporation	5.52	0	0	0	0
Miscellaneous processes	6.78	16.03	0.68	280.74	37.23
MOBILE SOURCES	ROG	СО	NOx	PM ₁₀	PM _{2.5}
On-road motor vehicles	2.43	27.10	9.68	0.53	0.28
Other mobile sources	3.77	19.37	7.13	0.82	0.78
NATURAL SOURCES	ROG	СО	NOx	PM_{10}	PM _{2.5}
Biogenic Sources	24.09	0.05	0	0.01	0.01
GRAND TOTAL	44.32	63.32	23.52	287.22	39.87

Notes:

All values in tons per day. Forecasted 2015 emissions are estimated from a base year inventory for 2012 and based on growth and control factors available from CARB. The sum of values may not equal total shown, due to rounding.

Inhalable Particulate Matter (PM₁₀)

Almost 98 percent of the total PM_{10} emissions in Imperial County are projected to come from the category labeled Miscellaneous Processes in 2015. The largest portion of the PM_{10} emissions from miscellaneous processes comes from fugitive windblown dust (74% of the total for miscellaneous processes) and unpaved road dust (21%).

However, as part of ICAPCD's PM₁₀ State Implementation Plan (SIP)¹⁹, analysis of the potential sources of fugitive windblown shows that during high winds, Imperial County's desert areas can produce PM emissions over 50 times greater than the emissions from any anthropogenic source, including agricultural cropland. In addition, Imperial County is bordered to the south by the densely populated city of Mexicali, Mexico. Mexicali comprises approximately 760,000 people within approximately 200 square miles, and has PM emissions estimated at 257 tons/day, compared with emissions of approximately 13 tons/day for the considerably smaller US town of Calexico

²⁰⁰⁹ Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter - Draft Final. Imperial County Air Pollution Control District. July 10, 2009.

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situated just across the Mexican border from Mexicali. Under stagnant and light wind conditions, elevated dust concentrations in Mexicali can cause PM from Mexico to drift across the border into Calexico. As a result of Imperial County's desert climate and of its shared border with the densely populated city of Mexicali, the primary reasons for elevated PM levels in Imperial County are thus (i) disturbance of soils by wind and human activity, (ii) transport of PM₁₀ from Mexico, and occasionally, (iii) wildfires.

Fine Particulate Matter (PM_{2.5})

Whereas a significant portion of PM₁₀ emissions come from dislocation processes, PM_{2.5} is smaller and is more often a result of particulates coming from combustion sources. However, in Imperial County Miscellaneous Processes will still represent 93 percent of the total PM_{2.5}, with fugitive windblown dust contributing approximately 75 percent of the miscellaneous processes total.



SECTION 3.0 – REGULATORY CONTEXT

Air pollutants are regulated at the national, State, and air basin level; each agency has a different degree of control. The EPA regulates at the national level; the CARB regulates at the State level; and the ICAPCD regulates at the air basin level in the Project area.

3.1. Regulatory Agencies

3.1.1 Environmental Protection Agency (EPA)

EPA is the federal agency responsible for overseeing state air programs as they relate to the FCAA, approving SIP, establishing NAAQS and setting emission standards for mobile sources under federal jurisdiction. EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

3.1.2 California Air Resources Board (CARB)

CARB is the state agency responsible for establishing CAAQS, adopting and enforcing emission standards for various sources including mobile sources (except where federal law preempts their authority), fuels, consumer products, and toxic air contaminants. CARB is also responsible for providing technical support to California's 35 local air districts, which are organized at the county or regional level, overseeing local air district compliance with State and federal law, approving local air plans and submitting the SIP to the EPA. CARB also regulates mobile emission sources in California, such as construction equipment, trucks, and automobiles.

For the purposes of managing air quality in California, the California Health & Safety Codes Section 39606(a)(2) gave the CARB the responsibility to "based upon similar meteorological and geographic conditions and consideration for political boundary lines whenever practicable, divide the State into air basins to fulfill the purposes of this division". Imperial County is located within the Salton Sea Air Basin.

3.1.3 Imperial County Air Pollution Control District (ICAPCD)

The ICAPCD shares responsibility with CARB for ensuring that all State and federal ambient air quality standards are achieved and maintained within the County. State law assigns to local air pollution control districts the primary responsibility for control of air pollution from stationary sources, while reserving an oversight role for CARB. Generally, the air pollution control districts must meet minimum State and EPA program requirements. The air pollution control district is also responsible for the inspection of stationary sources, monitoring of ambient air quality, and planning activities such as modeling and maintenance of the emission inventory. Air pollution control districts in State nonattainment areas are also responsible for developing and implementing transportation control measures necessary to achieve the state ambient air quality. In regards to the SIP, air pollution control districts will implement the following activities:

- 1. Development of emission inventories, modeling process, trend analysis and quantification and comparison of emission reduction strategies;
- 2. Necessary information on all federal and State adopted emission reduction measures which affect the area;
- 3. Review of emissions inventory, modeling, and self-evaluation work;
- 4. Technical and strategic assistance, as appropriate, in the selection and implementation of emission reduction strategies;
- 5. Technical and planning assistance in developing and implementing processes to address the impact of emissions growth beyond the attainment date;
- 6. Maintenance of monitors and reporting and analysis of monitoring data;



- 7. Support for public education efforts by providing information to the community for means of outreach;
- 8. Coordinate communication between local areas and EPA to facilitate continuing EPA review of local work;
- 9. Expeditious review of the locally developed plan, and if deemed adequate, propose modification of the AQMP to adopt the early progress plan;
- 10. Adoption of emission reduction strategies into the AQMP as expeditiously as possible.

3.2. Attainment Status

3.2.1 Designations/Classifications

EPA has identified nonattainment and attainment areas for each NAAQS. Under amendments to the FCAA, EPA has designated air basins or portions thereof as attainment, nonattainment, or unclassifiable, based on whether or not the national standards have been achieved. The State designates air basins or portions thereof for all CAAQS. The State designation criteria specify four categories: nonattainment, nonattainment-transitional, attainment, and unclassified.

In addition, the FCAA uses a classification system to design clean-up requirements appropriate for the severity of the pollution and set realistic deadlines for reaching clean-up goals. If an air basin is not in federal attainment for a particular pollutant, the Basin is classified as a marginal, moderate, serious, severe, or extreme nonattainment area, based on the estimated time it would take to reach attainment. Nonattainment areas must take steps towards attainment by a specific timeline. Table 7 shows the federal and State attainment designations and federal classifications for the Basin.

3.2.2 Federal Clean Air Act Requirements

The FCAA requires plans to provide for the implementation of all reasonably available control measures including the adoption of reasonably available control technology for reducing emissions from existing sources. The FCAA encourages market-based approaches to emission control innovations.

On April 30, 2004, Imperial County was classified as a "Marginal" nonattainment area for 8-Hour Ozone NAAQS under the FCAA. On March 13, 2008, the EPA found that Imperial County failed to meet attainment for the 8-Hour Ozone NAAQS by June 15, 2007 and was reclassified as "Moderate" nonattainment. However, on November 17, 2009, EPA announced that Imperial County has met the 1997 federal 8-hour ozone standard—demonstrating improved air quality in the area. The announcement is based on three years of certified clean air monitoring data for the years 2006-2008. Table 7 shows the designations and classifications for the Basin.

In response to the opinion of the *US Court of Appeals for the Ninth Circuit in Sierra Club v. United States Environmental Protection Agency, et al.*, in August 2004 the EPA found that the Imperial Valley PM₁₀ nonattainment area had failed to attain by the moderate area attainment date of December 31, 1994, and as a result reclassified under the FCAA the Imperial Valley from a moderate to a serious PM₁₀ nonattainment area. Also in August 2004, the EPA proposed a rule to find that the Imperial area had failed to attain the annual and 24-hour PM₁₀ standards by the serious area deadline of December 31, 2001. The EPA finalized the rule on December 11, 2007, citing as the basis for the rule that six Imperial County monitoring stations were in violation of the 24-hour standard during 1999-2001. The EPA's final rule action requires the State to submit to the EPA by December 11, 2008 (within one year of the rule's publication in the Federal Register) an air quality plan that demonstrates that the County will attain the PM₁₀ standard as expeditiously as practicable.



Pollutant	State Designation	Federal Designation (Classification)
Ozone	Nonattainment	Attainment
Respirable PM (PM ₁₀)	Nonattainment	Nonattainment (Serious) *
Fine PM (PM _{2.5})	Attainment***	Nonattainment **
Carbon Monoxide (CO)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide	Attainment	Attainment
Sulfates	Attainment	
Lead	Attainment	No Faland
Hydrogen Sulfide	Unclassified	– Federal Standard
Visibility reducing Particles	Unclassified	

Table 7 - Designations/Classifications for the Basin²⁰

On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle ($PM_{2.5}$) National Ambient Air Quality Standards²¹ wherein Imperial County was listed as designated nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS. However, the nonattainment designation for Imperial County is only for the urban area within the County²² and it has been determined that the SEPV Project is located outside of the nonattainment boundaries for $PM_{2.5}$. On April 10, 2014, CARB Board gave final approval to the 2013 Amendments to Area Designations for CAAQSs. For the State $PM_{2.5}$ standard, effective July 1, 2014, the City of Calexico will be designated nonattainment, while the rest of the SSAB will be designated attainment.

3.3. Regulatory Framework

This section contains a discussion of the federal, State, and local air quality regulations, plans, and policies applicable to the proposed landfill plan. Federal, state, and local authorities have adopted rules and regulations that govern the emissions of air pollutants from any facility. The local and federal authorities each have specific criteria for the evaluation of a source and its emissions and the authority to issue permit conditions and specify recordkeeping and reporting requirements that must be met in order to operate a source of air pollutants. This section focuses on current air quality regulations and their impact on the currently permitted landfill and on the proposed landfill plan.

^{*} Designation for Imperial Valley Planning Area only, which is most of Imperial County save for a small stretch of land on the County's eastern end.

^{**} Designation is only for the urban areas within Imperial County

^{***} Designation for the whole of Imperial County except the City of Calexico.

²⁰ Area Designations and Maps – 2013. California Air Resources Board. April 10, 2014.

Air Quality Designations for the 2006 24-Hour Fine Particle (PM_{2.5}) National Ambient Air Quality Standards. United States Environmental Protection Agency. Federal Register. Vol. 74, No. 218. November 13, 2009.

Final 2009 1997 8-Hour Modified Air Quality Management Plan. Imperial County Air Pollution Control District. July 13, 2010.



3.3.1 <u>Federal Regulations and Standards</u>

The FCAA was enacted in 1970 and last amended in 1990 (42 USC 7401, et seq.) with the purpose of controlling air pollution and providing a framework for national, state, and local air pollution control efforts. Basic components of the FCAA and its amendments include NAAQS for major air pollutants, hazardous air pollutants standards, SIP requirements, motor vehicle emissions standards, and enforcement provisions. The FCAA was enacted for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity.

3.3.2 State Regulations and Standards

CARB is responsible for responding to the FCAA, regulating emissions from motor vehicles and consumer products, and implementing the CCAA. The CCAA outlines a program to attain the CAAQSs for ozone, sulfur dioxide, and CO by the earliest practical date. Since CAAQSs are more stringent than NAAQSs in most cases, attainment of the CAAQS will require more emissions reductions than what would be required to show attainment of the NAAQS. Similar to the federal system, the state requirements and compliance dates are based upon the severity of the ambient air quality standard violation within a region.

3.3.3 Local Regulations and Standards

The ICAPCD also has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions of hazardous air pollutants, and New Source Review. The ICAPCD Rules and Regulations are part of the SIP and are separately enforceable by the EPA. The following ICAPCD rules potentially apply to the proposed project:

• Rules 800 (General Requirements for Control of Fine Particulate Matter), 801 (Construction and Earthmoving Activities), 802 (Bulk Materials, 803 (Carry-out and Track-out), 804 (Open Areas), and 805 (Paved and Unpaved Roads) are intended to reduce the amount of PM₁₀ entrained in the ambient air as a result of emissions generated by anthropogenic fugitive dust sources by requiring actions to prevent, reduce, or mitigate PM₁₀ emissions. These rules include opacity limits, control measure requirements, and dust control plan requirements that apply to activities at the Facility.

3.3.4 Air Quality Management Plans (AQMP)

3.3.4.1 Ozone Plan

On December 3, 2009, the EPA issued a final ruling determining that the Imperial County "moderate" 8-hour ozone non-attainment area attained the 1997 8-hour NAAQS for ozone. The determination by EPA was based upon complete, quality-assured, and certified ambient air monitoring data for the years 2006 thru 2008. This determination effectively suspended the requirement for the state to submit an attainment demonstration, a RFP plan, contingency measures and other planning requirements for so long as Imperial County continues to attain the 1997 8-hour ozone NAAQS. However, this determination did not constitute a re-designation to attainment; therefore, the classification and designation status for Imperial County remain as a "moderate" non-attainment area of the 1997 8-hour ozone NAAQS. As such, Imperial County was required to submit for EPA approval a 2009 8-Hour Ozone "Modified" Air Quality Management Plan (Modified AQMP), which was approved July 13, 2010.

The Modified AQMP serves as a comprehensive planning document intended to provide guidance to the ICAPCD, the County, and other local agencies on how to continue maintaining the 1997 8-hour ozone NAAQS. The Modified AQMP includes control measures consisting of three components: 1) the ICAPCD's Stationary Source Control Measures; 2) Regional Transportation Control Measures; and 3) the State Strategy. These measures primarily rely



on the traditional command-and-control approach and as such provide the framework for ICAPCD rules that reduce ROG and NO_X emissions.

3.3.4.2 PM₁₀ Plan

The ICAPCD District Board of Directors adopted the PM_{10} State Implementation Plan (SIP) for Imperial County on August 11, 2009^{23} . The PM_{10} SIP meets EPA requirements to demonstrate that the County will attain the PM_{10} standard as expeditiously as practicable. The PM_{10} SIP was required to address and meet the following elements, required under the FCAA of areas classified to be in serious nonattainment of the NAAQS:

- Best available emission inventories;
- A plan that enables attainment of the PM₁₀ federal air quality standards;
- Annual reductions in PM₁₀ or PM₁₀ precursor emissions that are of not less than 5 percent from the date of SIP submission until attainment;
- Best available control measures and best available control technologies for significant sources and major stationary sources of PM₁₀, to be implemented no later than 4 years after reclassification of the area as serious;
- Transportation conformity and motor vehicle emission budgets in accord with the attainment plan;
- Reasonable further progress and quantitative milestones; and
- Contingency measures to be implemented (without the need for additional rulemaking actions) in the event
 that the control measure regulations incorporated in the plan cannot be successfully implemented or fail to
 give the expected emission reductions.

The PM₁₀ SIP updated the emission inventory to incorporate revised cattle emissions, revised windblown dust model results, revised South Coast Association of Governments activity data, and updated entrained and windblown unpaved road dust estimates. The adjustments made to the emission inventory fell in two categories: (i) adjustments to incorporate new methodology and updated information (e.g., throughputs, activity data, etc.), and (ii) adjustments to incorporate emission reductions arising from the implementation of new control measures.

Additionally, the PM₁₀ SIP demonstrates that Imperial County attained the Federal PM₁₀ NAAQS, but-for international emissions from Mexico, based on 2006-2008 monitoring data. Attainment was due, in part, to ICAPCD's November 2005 adoption and subsequent implementation of Regulation VIII fugitive dust rules; those rules were based on the related 2005 Best Available Control Measure (BACM) analysis.

Since the reclassification of Imperial County to serious nonattainment for PM_{10} occurred on August 2004 and control of fugitive PM_{10} emissions from the significant source categories that meets BACM stringency identified in the PM_{10} SIP began in January 2006.

Major stationary sources are required to implement Best Available Control Technology (BACT) to control PM_{10} emissions (Rule 207) and they are required to comply with the 20 percent opacity (Rule 403). In addition, stationary sources will be required to mitigate fugitive dust emissions from access roads, construction activities, handling and transferring of bulk materials, and track-out/carry-out according to the requirements of Regulation VIII.

Because the Imperial County is shown in the PM_{10} SIP to have attained the 24-hour PM_{10} NAAQS but-for international transport of Mexicali emissions in 2006-2008, reasonable further progress and milestone requirements

^{23 2009} Imperial County State Implementation Plan for Particulate Matter Less Than 10 Microns in Aerodynamic Diameter. Imperial County Air Pollution Control District. July 10, 2009.



are unnecessary, and specifically the 5% yearly emission reductions requirement does not apply to future years. As documented in the PM_{10} SIP, all remaining SIP requirements applicable to the 2009 Imperial County PM_{10} Plan have been successfully addressed.

3.3.4.3 PM_{2.5} Plan

The ICAPCD District Board of Directors adopted the PM_{2.5} SIP for Imperial County on December 2, 2014 ²⁴. The PM_{2.5} SIP fulfills the requirements of the CAA for those areas classified as "moderate" nonattainment for PM_{2.5}. The PM_{2.5} SIP incorporates updated emission inventories, and analysis of Reasonable Available Control Measures (RACM), an assessment of Reasonable Further Progress (RFP), and a discussion of contingency measures. Analyses in the PM_{2.5} SIP included assessing emission inventories from Imperial County and Mexicali; evaluating the composition and elemental makeup of samples collected on Calexico violation days; reviewing the meteorology associated with high concentration measurements; and performing directional analysis of the sources potentially impacting the Calexico PM_{2.5} monitor. As is demonstrated in the PM_{2.5} SIP, the primary reason for elevated PM_{2.5} levels in Imperial County is transport from Mexico. Essentially, the PM_{2.5} SIP demonstrated attainment of the 2006 PM_{2.5} NAAQS "but-for" transport of international emissions from Mexicali, Mexico.

3.4. Climate Change

3.4.1 Federal Climate Change Legislation

In June of 2013, the President enacted a national Climate Action Plan²⁵ (Plan) that consisted of a wide variety of executive actions and had three pillars; 1) cut carbon in America, 2) prepare the U.S. for impacts of climate change, and 3) lead international efforts to combat global climate change and prepare for its impacts. The Plan outlines 75 goals within the three main pillars.

3.4.1.1 <u>Cut Carbon in America</u>

The Plan consists of actions to help cut carbon by deploying clean energy such as cutting carbon from power plants, promoting renewable energy, and unlocking long-term investment in clean energy innovation. In addition, the Plan includes actions designed to help build a 21st century transportation sector; cut energy waste in homes, businesses, and factories; and reducing other GHG emissions, such as HFCs and methane. The Plan commits to lead in clean energy and energy efficiency at the federal level.

3.4.1.2 Prepare the U.S. for Impacts of Climate Change

The Plan consists of actions to help prepare for the impacts through building stronger and safer communities and infrastructure by supporting climate resilient investments, supporting communities and tribal areas as they prepare for impacts, and boosting resilience of building and infrastructure; protecting the economy and natural resources by identifying vulnerabilities, promoting insurance leadership, conserving land and water resources, managing drought, reducing wildfire risks, and preparing for future floods; and using sound science to manage climate impacts.

3.4.1.3 Lead International Efforts

The Plan consists of actions to help the U.S. lead international efforts through working with other countries to take action by enhancing multilateral engagements with major economies, expanding bilateral cooperation with major

Imperial County 2013 SIP for the 2006 24-hr PM2.5 Moderate Nonattainment Area. Imperial County Air Pollution Control District. December 2, 2014.

²⁵ Presidents Obama's Climate Action Plan: One Year Later. Center for Climate and Energy Solutions. June 2014.



emerging economies, combating short-lived climate pollutants, reducing deforestation and degradation, expanding clean energy use and cutting energy waste, global free trade in environmental goods and services, and phasing out subsidies that encourage wasteful use of fossil fuels and by leading efforts to address climate change through international negotiations.

In June of 2014, the Center for Climate and Energy Solutions (C2ES) published a one-year review of progress in implementation of the Plan. The C2ES found that the administration had made marked progress in its initial implementation. The administration made at least some progress on most of the Plan's 75 goals; many of the specific tasks outlined had been completed. Notable areas of progress included steps to limit carbon pollution from power plants; improve energy efficiency; reduce CH₄ and HFC emissions; help communities and industry become more resilient to climate change impacts; and end U.S. lending for coal-fired power plants overseas.

3.4.2 <u>State Climate Change Legislation</u>

3.4.2.1 Executive Order S 3-05

On June 1, 2005, the Governor issued Executive Order S 3-05 which set the following GHG emission reduction targets:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels;
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

To meet these targets, the Climate Action Team prepared a report to the Governor in 2006 that contains recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met.

3.4.2.2 <u>Assembly Bill 32 (AB 32)</u>

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 focuses on reducing GHG emissions in California. GHGs, as defined under AB 32, include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. CARB is the state agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. AB 32 also requires that by January 1, 2008, the CARB must determine what the statewide GHG emissions level was in 1990, and it must approve a statewide GHG emissions limit so it may be applied to the 2020 benchmark. CARB approved a 1990 GHG emissions level of 427 MtCO₂e, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 MtCO₂e.

Under the "business as usual or (BAU)" scenario established in 2008, Statewide emissions were increasing at a rate of approximately 1 percent per year as noted below. It was estimated that the 2020 estimated BAU of 596 MtCO₂e would have required a 28 percent reduction to reach the 1990 level of 427 MtCO₂e.

3.4.2.3 <u>Climate Change Scoping Plan</u>

The Scoping Plan²⁶ released by CARB in 2008outlined the state's strategy to achieve the AB-32 goals. This Scoping Plan, developed by CARB in coordination with the Climate Action Team (CAT), proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on

²⁶ Climate Change Scoping Plan: a framework for change. California Air Resources Board. December 2008.



oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by CARB at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 MtCO₂e requires the reduction of 169 MtCO₂e, or approximately 28.3 percent, from the State's projected 2020 BAU emissions level of 596 MtCO₂e.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document²⁷. This document includes expanded analysis of project alternatives as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 MtCO₂e, only a 16 percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions contained in Appendices C and E of the Plan. These measures are presented in Table 8.

However, in May 2014, CARB developed; in collaboration with the CAT, the First Update to California's Climate Change Scoping Plan²⁸ (Update), which shows that California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB-32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), CARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. CARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 MtCO₂e, therefore the 2020 GHG emissions limit established in response to AB-32 is now slightly higher than the 427 MtCO₂e in the initial Scoping Plan.

3.4.2.4 Renewables Portfolio Standard (RPS) (Scoping Action E-3)

The California Energy Commission estimates that about 12 percent of California's retail electric load is currently met with renewable resources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. California's current Renewables Portfolio Standard (RPS) is intended to increase that share to 20 percent by 2010. Increased use of renewables will decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. Based on the Governor's call for a Statewide 33 percent RPS, the Scoping Plan anticipates that California will have 33 percent of its electricity provided by renewable resources by 2020, and includes this reduction in GHG emissions. The RPS was established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107, and expanded in 2011 under Senate Bill 2.

3.4.2.5 Senate Bill 375 (SB 375)

Senate Bill (SB) 375 passed the Senate on August 30, 2008 and was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions and contributes over 40 percent of the GHG emissions in California, with automobiles and light trucks alone contributing almost 30 percent. SB 375 indicates that GHGs from automobiles and light trucks can be reduced by new vehicle technology. However, significant reductions from changed land use patterns and improved transportation also are necessary. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation

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²⁷ Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. California Air Resources Board. August 19, 2011.

²⁸ First Update to the Climate Change Scoping Plan, Building on the Framework. California Air Resources Board. May 2014.



and housing, and (3) creates specified incentives for the implementation of the strategies.

Table 8 – Recommended Actions of Climate Change Scoping Plan by Sector

ID#	Strategy Name
Transport	ation
T-1	Pavley I and II – Light-Duty Vehicle GHG Standards
*T-2	Low Carbon Fuel Standard
T-3	Regional Transportation-Related GHG Targets
T-4	Vehicle Efficiency Measures
*T-5	Ship Electrification at Ports
T-6	Goods Movement Efficiency Measures
*T-7	Heavy Duty Vehicle GHG Emission Reduction Measure – Aerodynamic Efficiency
T-8	Medium/Heavy-Duty Vehicle Hybridization
T-9	High Speed Rail
Electricity	and Natural Gas
E-1	Energy Efficiency - Reduced Demand of 32,000 Gigawatt-hours (GWh)
E-2	Increase Combined Heat and Power Use by 30,000 GWh
E-3	Renewables Portfolio Standard
E-4	Million Solar Roofs
CR-1	Energy Efficiency - Commercial and Residential
CR-2	Solar Water Heating
Green Bui	ildings
GB-1	Green Buildings
Water	
W-1	Water Use Efficiency
W-2	Water Recycling
W-3	Water System Energy Efficiency
W-4	Reuse Urban Runoff
W-5	Increase Renewable Energy Production
W-6	Public Goods Charge
Industry	
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources
I-2	Oil and Gas Extraction GHG Emission Reduction
I-3	GHG Leak Reduction from Oil and Gas Transmission
I-4	Refinery Flare Recovery Process Improvements
I-5	Removal of Methane Exemption from Existing Refinery Regulations



ID # Strategy Name

Recycling and Waste Management

- *RW-1 Landfill Methane Control
- RW-2 Additional Reductions in Landfill Methane Capture Improvements
- RW-3 High Recycling/Zero Waste

Forestry

F-1 Sustainable Forest Target

High Global Warming Potential Gases

- *H-1 Motor Vehicle Air Conditioning Systems
- *H-2 SF₆ Limits in Non-Utility and Non-Semiconductor Applications
- *H-3 Reduction in Perfluorocarbons in Semiconductor Manufacturing
- *H-4 Limit High GWP Use in Consumer Products
- H-5 High GWP Reductions from Mobile Sources
- H-6 High GWP Reductions from Stationary Sources
- H-7 Mitigation Fee on GWP Gases

Agriculture

A-1 Methane Capture at Large Dairies

Notes:

* = Discrete Early Actions – actions taken by CARB to reduce GHGs while also preparing the Scoping Plan



SECTION 4.0 – SIGNIFICANCE CRITERIA

The ICAPCD CEQA Air Quality Handbook²⁹ outlines significance determination thresholds. The significance criteria described in this section have been derived from this guidance document. In addition, significance criteria for stationary sources, which are permitted by the ICAPCD, are also cited in this section of the document.

4.1. CEQA Significance Determination Thresholds

As stated in the ICAPCD CEQA Air Quality Handbook and in the State CEQA Guidelines, a project is deemed to have a "potentially significant impact" on air quality if it could:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute to an existing or projected air quality violation;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose the public (especially schools, day care centers, hospitals, retirement homes convalescence facilities, and residences) to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people. Each of these threshold criteria is discussed in this section.

4.2. ICAPCD Regional Thresholds of Significance

Under CEQA, each public agency is encouraged to develop and publish thresholds of significance. These thresholds of significance should be an identifiable quantitative, qualitative, or performance level of a particular environmental effect; the noncompliance with would mean the effect would normally be significant while compliance with would mean the effect would normally be less than significant.

4.2.1 Operational Thresholds

The ICAPCD has determined in their Guidelines that, because the operational phase of a proposed project has the potential of creating lasting or long term impacts on air quality, it is important that a proposed development evaluate the potential impacts carefully. Therefore, air quality analyses should compare all operational emissions of a project, including motor vehicle, area source, and stationary or point sources to the thresholds in Table 9 below. Table 9 provides general guidelines for determining the significance of impacts and the recommended type of environmental analysis required based on the total emissions that are expected from the operational phase of a project.

4.2.1.1 Tier I

From the ICAPCD's perspective, residential, commercial, and industrial developments with a potential to emit below the Tier I level will not be required to develop a Comprehensive Air Quality Analysis Report (CAQAR) or an Environmental Impact Report (EIR). However, an Initial Study would be required to help the Lead Agency determine whether the project would have a less than significant impact. The Lead Agency is required by CEQA to disclose the identified environmental effects and the ways in which the environmental effects will be mitigated to

CEQA Air Quality Handbook: Guidelines for the Implementation of the California Air Quality Act of 1970, and amended. Imperial County Air Pollution Control District, November 2007.



achieve a level of less than significant. To achieve a level of insignificance the Lead Agency should require the implementation of all feasible standard mitigation measures listed in Section 7.2 in the ICAPCD Guidelines. It is important to note that the measures identified in Section 7.2 do not represent a comprehensive list of all mitigation measures. Alternative mitigation measures may be proposed by the project proponent, the Lead Agency, or the ICAPCD. The ICAPCD requires that alternative mitigation measures be fully documented with a copy of the documentation attached to the Initial Study. In addition, for some residential and commercial development projects, the developer may be required to implement off-site mitigation measures in order to reduce the air quality impacts further.

Pollutant	Emissions in lbs/day			
Pollutant	Tier I	Tier II		
NO _X and ROG	Less than 55 lbs/day	55 lbs/day and greater		
PM ₁₀ and SO _X	Less than 150 lbs/day	150 lbs/day and greater		
CO	Less than 550 lbs/day	550 lbs/day and greater		
Level of Significance	Less Than Significant	Significant Impact		

Table 9 - Regional Operational Thresholds of Significance³⁰

4.2.1.2 <u>Tier</u> II

Any proposed residential, commercial, or industrial development with a potential to meet or exceed Tier II Levels is considered to have a significant impact on regional and local air quality and, therefore required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures. These measures must be listed and incorporated into the environmental document, which is prepared by the Lead Agency. Typically, Tier II projects are required, by the Lead Agency, to prepare an EIR however, should a Lead Agency exempt a project from the development of an EIR the ICAPCD requires, at a minimum, a CAQAR. A properly developed CAQAR will identify the significant air quality impacts and the required mitigation measures associated with the project. A menu of standard and discretionary mitigation measures is listed in Sections 7.2 and 7.3. These mitigation measures serve to provide the project proponent with feasible measures to help reduce the air quality impacts identified in the CAQAR. In addition, residential, commercial, and industrial development projects may be required to implement off-site mitigation measures in order to further reduce the air quality impacts. All residential, commercial, and industrial projects are required to abide by off-site mitigation requirements under Section 7.4 of the ICAPCD Guidelines.

4.2.2 Construction Thresholds

Even though construction emissions are generally temporary in nature, they can have an adverse impact on air quality. Construction, by its very nature may produce a variety of emissions; however, PM_{10} is the pollutant of greatest concern. While construction PM_{10} emissions can vary greatly depending on the phase of the construction, level of activity, and other factors, ICPACD states there are feasible mitigation or control measures, which can be reasonably implemented to reduce PM_{10} emissions significantly. Because particulate emissions from construction activities have the potential of leading to adverse health effects as well as nuisance concerns, such as reduced visibility, all projects are required to mitigate construction fugitive dust impacts by regulation, i.e. ICAPCD Regulation VIII. Another source of construction-related emissions comes from the use of diesel powered

³⁰ ibid



construction equipment which have been known to produce ozone precursor emissions and combustion related particulate emissions. To help projects address these emissions The ICAPCD has also listed standard mitigation measures for construction equipment in their Guidelines.

The ICAPCD suggests that the approach of the CEQA analyses for construction PM₁₀ impacts should be qualitative as opposed to quantitative. While a Lead Agency may elect to quantify construction emissions, the ICAPCD recommends the implementation of effective and comprehensive mitigation measures. Standard Mitigation Measures for construction equipment and fugitive PM₁₀ must be implemented at all construction sites. However, Table 10 shows construction thresholds ICAPCD provides to serve as a guide for project developers and interested parties in determining the recommended type of mitigation measures.

Pollutant	Threshold in lbs/day
PM ₁₀	150
ROG	75
NO _X	100
СО	550

Table 10 - Construction Threshold Guide³¹

For those projects that fall below the threshold for construction, adherence to the most current rules adopted for the control of fugitive dust is mandatory. In addition, the ICAPCD requires the use of the Standard Mitigation Measures for construction equipment and fugitive dust found under the Guidelines.

Projects that are greater than the threshold for construction may have a significant impact on local and, under certain circumstances, regional air quality. These projects must conduct a construction analysis that appropriately reflects the identified potential air quality impacts from construction activity. In addition, the quantification of construction emissions should be utilized to help define the need for a Health Risk Assessment (HRA). Projects that are prone to a significant use of heavy-duty diesel equipment and that are within areas prone to human exposure will be required to perform a diesel exhaust screening level. Factors considered by the ICAPCD staff when determining if a screening risk analysis is necessary include the expected emissions from diesel equipment, the location of the project and the distance to sensitive receptors.

Standard mitigation measures listed in the Guidelines for construction equipment and fugitive PM_{10} control should be implemented at all sites. In addition, all discretionary mitigation measures listed in the guidelines should be implemented at construction sites greater than 4 acres in size.

4.2.3 Toxics or Hazardous Air Pollutant Thresholds

The ICAPCD has also determined that project impacts may also be considered significant if the project which has the potential to emit toxic or hazardous air pollutants and are located in close proximity to sensitive receptors. These projects may be required to prepare an HRA to determine the potential level of risk associated with the operation.

4.2.4 Odor Threshold

While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the District. Any project

³¹ ibid



with the potential to expose members of the public to objectionable odors frequently would be deemed to have a significant impact.

4.3. Greenhouse Gas (GHG) / Climate Change

4.3.1 <u>California Environmental Quality Act (CEQA)</u>

Effective March 18, 2010, CEQA Appendix G states that a project would have potentially significant GHG emission impacts if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

4.3.2 <u>Local Significance Thresholds</u>

It is widely recognized that no single project could generate enough GHG emissions to change the global climate temperature noticeably. However, the combination of GHG emissions from past, present, and future projects could contribute substantially to global climate change. Thus, project specific GHG emissions should be evaluated in terms of whether or not they would result in a cumulatively significant impact on global climate change.

This analysis proposes the use of the "Tier 3" quantitative thresholds for residential and commercial projects as recommended by the South Coast Air Quality Management District (SCAQMD)³². The SCAQMD proposes that if a project generates GHG emissions below 3,000 tCO₂e, it could be concluded that the project's GHG contribution is not "cumulatively considerable" and is therefore less than significant under CEQA. If the project generates GHG emissions above the threshold, the analysis must identify mitigation measures to reduce GHG emissions.

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Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. South Coast Air Quality Management District. October 2008.



SECTION 5.0 – IMPACT ANALYSIS

5.1. Analysis Methodology

Regional and local emissions of criteria air pollutants and precursors, and GHGs during project construction and operations were assessed in accordance with the methodologies described below. ICAPCD suggests that the "approach of the CEQA analyses for construction PM_{10} impacts should be qualitative as opposed to quantitative"³³ but that any projects which are greater than the level of significance for construction may have a significant impact on local and, under certain circumstances, regional air quality. Even though the size of the SEPV Project is not large, this AQR has decided to include PM_{10} in the quantification.

Due to the type of project (i.e. solar farm), it was determined that emissions from the construction activities related to the SEPV Project could not be easily estimated using existing models, including Urban Emissions Model (URBEMIS2007) and California Emissions Estimator Model (CalEEMod) as these models are designed for "typical" land development projects. Therefore, this analysis attempts to provide detailed analysis of impacts related to site preparation, including any erosion control measures deemed necessary; stabilization of construction entrances and exits to reduce tracking; internal access roads; construction of PV modules; and testing/certification.

This AQR presents the emissions information separately for each of the two solar projects DESF and DWSF as well as for the combined SEPV Project.

5.1.1 Construction Emissions

Construction of the SEPV Project would result in temporary emissions of ROG, CO, NO_X, SO_X, PM₁₀, and PM_{2.5}. Emissions from construction activities would result from fuel combustion and exhaust from construction equipment and vehicle traffic (i.e., worker commute and delivery truck trips), and grading and site work.

Construction for the SEPV Project is expected to last 22 weeks for DESF and 26 weeks for DWSF. The DESF facility is scheduled to begin first, with the DWSF facility construction starting 11 weeks later. Construction of the SEPV Project is scheduled to take approximately 36 weeks total to complete. Each separate facility would be divided into four potentially overlapping broad phase activities: 1) Site Preparation, Fencing, and Ingress/Egress; 2) Civil Improvements - Grading/Roads/Earthwork; 3) PV Panel Construction; and 4) Testing and Commissioning. Presented in Table 11 are the activity phase durations per solar facility that were used in the estimation of emissions. Construction would primarily occur during daylight hours, Monday through Saturday.

For each solar facility, emissions from off-road equipment, such as tractors, graders, loaders, scrapers, forklifts, trenchers, compactors, rollers, and post drivers; onsite mobile equipment, such as water trucks, pickup trucks, lube/fuel trucks, and flatbed delivery trucks; mobile activity from vendors, such as flatbed/delivery trucks and Portolet trucks; and employee vehicular commute were estimated. Potential double counting that would occur by proportioning the size of the labor force as well as the duration of activity based on individual solar site size was left in to provide an overall conservative estimation. A detailed summary of the assumptions and model data used to estimate the SEPV Project's construction emissions is provided in Appendix A.

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CEQA Air Quality Handbook: Guidelines for the Implementation of the California Air Quality Act of 1970, and amended. Imperial County Air Pollution Control District, November 2007.



Table	11 _	Droject	Dhasa	Durations
rabie	11 -	Project	rnase	Durations

Autivitus Disease	Duration (months)		
Activity Phase	DESF	DWSF	
Phase 1 - Site Preparation, Fencing, and Ingress/Egress	1.4	1.6	
Phase 2 - Civil Improvements - Grading/Roads/Earthwork	1.9	2.2	
Phase 3 - PV Panel Construction	3.9	4.6	
Phase 4 - Testing and Commissioning	0.7	0.8	
Solar Site Facility Duration	5.1	6.0	

Note: the sum of the individual activity phase durations do not add up to the overall project duration due to activity phase overlap.

5.1.2 Operational Emissions

The facilities would be remotely operated, controlled, and monitored and with no requirement for daily on-site employees. Local and remote operations and maintenance staff would be on-call to respond to any alerts generated by the monitoring systems, and would be present on the site periodically to perform maintenance. A part-time operations and maintenance (O&M) staff of two or three persons per project would be responsible for performing all routine and emergency operational and maintenance activities. Once operational, sources of emissions associated with the SEPV Project would be limited to routine maintenance and monitoring activities, such as inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels.

These facilities would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. Maintenance activities may occur seven days a week, 24 hours a day to ensure PV Panel output when solar energy is available; however, most scheduled maintenance would occur during daytime hours but work may be performed at night for safety reasons.

A detailed summary of the assumptions and model data used to estimate the SEPV Project's operational emissions is provided in Appendix A.

Other air quality impacts (i.e., local emissions of CO, odors, and construction- and operation-related TACs) were assessed in accordance with methodologies recommended by CARB and ICAPCD.

5.2. Analysis of Environmental Impacts

IMPACT 1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

CEQA requires that projects be consistent with the applicable AQMP. A consistency determination plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision-makers of the environmental efforts of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed.

ICAPCD's CEQA Handbook states that a CAQAR of a proposed project should demonstrate compliance with the most recent ozone AQMP and PM_{10} SIP. It also states the Analysis Report should also demonstrate compliance with the Imperial County Rules and Regulations but also those of the State and federal regulations.



Ozone Air Quality Management Plan (AQMP)

In order to develop the Modified AQMP³⁴, a control strategy for meeting State and federal requirements is required. The ICAPCD control strategy included an interactive process of technology and strategy review supported by ambient air quality modeling. The air quality modeling assists in identifying current and remaining emission targets that would help to achieve the ambient air quality standards. The Modified AQMP control measures consist of three components: 1) the ICAPCD's Stationary Source Control Measures; 2) Regional Transportation Strategy and Control Measures; and 3) State Strategy. These measures primarily rely on the traditional "command and control" approach and as such provide the framework for ICAPCD Rules that reduce ROG and NO_X emissions.

The SEPV Project does not produce new residential activity, produces only minimal additional traffic activity during project operations; and does not fall outside of the modeling forecast estimations used in determining continued maintenance.

PM₁₀ State Implementation Plan (PM₁₀ SIP)

The PM₁₀ SIP was required to address and meet the following elements, required under the FCAA of areas classified to be in serious nonattainment of the NAAQS:

- Best available emission inventories;
- A plan that enables attainment of the PM_{10} federal air quality standards;
- Annual reductions in PM₁₀ or PM₁₀ precursor emissions that are of not less than 5 percent from the date of SIP submission until attainment;
- Best available control measures and best available control technologies for significant sources and major stationary sources of PM₁₀, to be implemented no later than 4 years after reclassification of the area as serious;
- Transportation conformity and motor vehicle emission budgets in accord with the attainment plan;
- Reasonable further progress and quantitative milestones; and
- Contingency measures to be implemented (without the need for additional rulemaking actions) in the event
 that the control measure regulations incorporated in the plan cannot be successfully implemented or fail to
 give the expected emission reductions.

In November 2005, revised Regulation VIII fugitive dust control measures were adopted, which form the core of the Imperial County PM_{10} control strategy. Portions of Regulation VIII that would apply to Construction and Earthmoving Activities are:

- Required to limit Visible Dust Emissions (VDE) to 20% opacity by complying with the following measures:
 - O Phase work to minimize the amount of disturbed surface area at one time;
 - o Apply water or chemical stabilization;
 - o Construct and maintain wind barriers around the activity site;
 - o Restrict vehicular access to the area by fencing or signage;
 - Mitigate track out/carry out of bulk materials at the site in compliance with Rule 803; and
 - o Transport bulk material to, from, and around the site in compliance with Rule 802.
- Required to provide a Dust Control Plan that documents the type and location of the project, the expected start and completion dates of the dust generating activities, the total area of land surface to be disturbed, the actual

Final 2009 1997 8-Hour Modified Air Quality Management Plan. Imperial County Air Pollution Control District. July 13, 2010.



and potential sources of fugitive dust emissions on the site (including the location of Bulk Material handling and storage areas, paved and unpaved roads, entrances and exits where track out/carry out may occur, etc.), and all the fugitive dust control measures to be implemented before, during, and after any dust-generating activity.

- For unpaved haul/access roads, unpaved traffic areas larger than 1 acre and with ≥ 75 average vehicle trips per day (AVTD), unpaved roads with ≥ 50 AVTD, and canal roads with ≥ 20 AVTD, VDE must be limited to 20% opacity by applying at least one of the stabilization methods described below;
 - o Paving,
 - o Applying chemical stabilization as directed by the product manufacturer,
 - Applying and maintaining gravel, recrushed/recycled asphalt or other material of low silt content (<5%) to a depth of three or more inches, or
 - o Applying water one or more times daily

At only three vehicles per day, operational activities related to the SEPV Project would not generate enough traffic to significantly impact regional transportation emissions budgets; will comply with all applicable ICAPCD Rules and Regulations³⁵; and will comply with all applicable State and federal requirements for attainment of air quality objectives.

Level of Significance Before Mitigation: The SEPV Project would not conflict with, or obstruct implementation of, the applicable air quality plan, therefore would result in a less than significant impact.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 2: Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

An impact is potentially significant if emissions levels exceed the State or federal AAQSs. The ICAPCD has established that construction related PM₁₀ emissions could cause a substantial increase in localized concentrations, which under certain circumstances could contribute to violations of the State and federal AAQSs. As such, the Imperial County adopted Regulation VIII, which contains a variety of feasible fugitive dust control measures to help bring the ICAPCD into compliance with the NAAQS. Therefore, compliance with Regulation VIII and its measures is required and applies to any project regardless of its determined level of significance or size. In addition, the SEPV Project will adopt all feasible discretionary measures listed in the ICAPCD's Guidelines (see discussion of **Impact 3**).

Level of Significance Before Mitigation: The SEPV Project would not violate an air quality standard or contribute to an existing or projected air quality violation, therefore would result in a less than significant impact.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

³⁵ Imperial County Air Pollution Control District Rules and Regulations. Imperial County Air Pollution Control District. Revised June 2, 2009.



IMPACT 3: Would the Project result in construction-related air quality impacts?

Construction of the SEPV Project would result in emissions of the air pollutants ROG, NO_X, CO, PM₁₀, PM_{2.5}, and SO_X. Emissions from construction would result from fuel combustion and exhaust from construction equipment and vehicle traffic and fugitive dust from earth moving operations and roadways.

Criteria pollutant emissions from off-road construction equipment use were estimated using the underlying emission and load factors of URBEMIS and CalEEMod computer models. Emissions were estimated from the exhaust off-road equipment by using emission factors from Table 3.4 of Appendix D in the CalEEMod User's Guide³⁶ for year 2016. For default load factors, this AQR uses updated load factors from the Carl Moyer Program Guidelines³⁷.

Emissions from vehicular activity related to construction employees and vendors were estimated using CARB's EMFAC2014 Web Database³⁸ with emission rate data for Imperial County for the 2016 calendar year. This AQR used EMFAC2011's aggregate model years, which is an average age of vehicles specific for Imperial County. To generate expected exhaust emissions from employee vehicles, this AQR also used CARB's EMFAC2014 Web Database. In order to represent the type of vehicles used by the potential employee work pool more accurately, an activity-weighted average emission factor was generated using light-duty automobiles and light-duty trucks. The averages were derived from the distributions of vehicle miles travelled (VMT) from EMFAC2014.

Grading fugitive dust was estimated using methodology described in Section 11.9, Western Surface Coal Mining, of the EPA AP-42³⁹ and as presented in the CalEEMod User's Guide. Entrained road dust emissions were assigned to both employee and vendor activity. Per the ICAPCD, 50 percent of vehicular travel in Imperial County is assumed to be on unpaved roads. All of the on-site vehicular activity is assumed to be on unpaved roads.

Emissions are presented below for each of the two individual solar projects and the combined SEPV Project. Since the thresholds for criteria pollutants are in pounds per day, emissions estimated from each activity phase for each facility, then combined with other activity phases where they overlap, to generate the maximum emissions per day. There is some overlap of activity phases for each separate facility, as well as some overlap between facilities in the overall scheduling of the entire SEPV Project. Emissions presented below are considered unmitigated, which is to mean hypothetical emissions from construction activity, which does not apply equipment or activity restrictions or controls, even those required by ICAPCD regulations.

Project Specific Estimates

Table 12 presents the daily maximum unmitigated emissions for each month of construction for the Dixieland East Solar Farm.

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³⁶ User's Guide: California Emissions Estimator Model (CalEEMod) – Version 2013.2. California Air Pollution Control Officers Association. July 2013.

The 2011 Carl Moyer Program Guidelines. California Air Resources Board. March 27, 2013.

http://www.arb.ca.gov/emfac/2014/

Compilation of Air Pollutant Emission Factors – AP-42. Fifth Edition. United States Environmental Protection Agency. January 1995.



Table 12 – Unmitigated Construction Emissions for Dixieland East Solar Farm

Month/Activity	Criteria Emissions (lbs/day)				
Wolling Activity	ROG	со	NOx	PM ₁₀	PM _{2.5}
1 st Month – Phases 1, 2, & 3	6.9	39.8	50.1	74.0	10.5
2 nd Month – Phases 1, 2, & 3	6.9	39.8	50.1	74.0	10.5
3 rd Month – Phases 2 & 3	5.6	32.6	41.0	60.6	8.7
4 th Month – Phase 3	3.2	20.4	24.2	33.9	5.1
5 th Month – Phases 3 & 4	3.3	22.1	24.5	46.9	6.5
6 th Month – Phase 4	0.1	1.7	0.3	12.9	1.4
DESF Maximum Daily	6.9	39.8	50.1	74.0	10.5
ICAPCD Threshold	75	550	100	150	77/4
Exceed Thresholds?	No	No	No	No	N/A

The DWSF project is estimated to take 6.0 months from project start to completion and Table 13 presents the daily maximum unmitigated emissions for each month of construction for each month of construction for the Dixieland West Solar Farm.

Table 13 – Unmitigated Construction Emissions for Dixieland West Solar Farm

Month /Activity	Criteria Emissions (lbs/day)				
Month/Activity	ROG	со	NOx	PM ₁₀	PM _{2.5}
3 rd Month – Phases 1 & 2	3.6	19.5	26.0	40.1	5.5
4 th Month – Phases 1, 2, & 3	7.1	40.9	51.8	74.1	10.6
5 th Month – Phases 1, 2, & 3	7.1	40.9	51.8	74.1	10.6
6 th Month – Phase 3	3.4	21.5	25.9	34.0	5.2
7 th Month – Phase 3	3.4	21.5	25.9	34.0	5.2
8 th Month – Phases 3 & 4	3.5	23.1	26.2	47.0	6.6
9 th Month – Phase 4	0.1	1.7	0.3	12.9	1.4
DWSF Maximum Daily	7.1	40.9	51.8	74.1	10.6
ICAPCD Threshold	75	550	100	150	27/4
Exceed Thresholds?	No	No	No	No	N/A



In summary, individually neither DESF nor DWSF would exceed any threshold.

SEPV Project

Since this AQR also analyzes the entirety of the SEPV Project, additional analysis evaluates the impacts on the construction of both solar facilities. Table 14 shows the hypothetical unmitigated combined impacts from the construction of both solar facilities.

Table 14 - Unmitigated Criteria Temporal Summary for SEPV Project

Month	Solar Farm	Criteria Emissions (lbs/day)					
#	Solar Farm	ROG	со	NOx	PM ₁₀	PM _{2.5}	
	DESF	6.88	39.83	50.12	74.03	10.53	
1	Month 1 Totals	6.9	39.8	50.1	74.0	10.5	
2	DESF	6.88	39.83	50.12	74.03	10.53	
	Month 2 Totals	6.9	39.8	50.1	74.0	10.5	
	DESF	5.64	32.65	40.97	60.62	8.67	
3	DWSF	3.65	19.47	25.96	40.09	5.47	
	Month 3 Totals	9.3	52.1	66.9	100.7	14.1	
	DESF	3.23	20.37	24.16	33.93	5.06	
4	DWSF	7.08	40.92	51.84	74.13	10.62	
	Month 4 Totals	10.3	61.3	76.0	108.1	15.7	
	DESF	3.29	22.06	24.46	46.88	6.47	
5	DWSF	7.08	40.92	51.54	74.13	10.62	
	Month 5 Totals	10.4	63.0	76.3	121.0	17.1	
	DESF	0.06	1.69	0.30	12.95	1.41	
6	DWSF	3.43	21.45	25.88	34.03	5.15	
	Month 6 Totals	3.5	23.1	26.2	47.0	6.6	
7	DWSF	3.43	21.45	25.88	34.03	5.15	
	Month 7 Totals	3.4	21.5	25.9	34.0	5.2	
8	DWSF	3.49	23.14	26.18	46.98	6.56	
	Month 8 Totals	3.5	23.1	26.2	47.0	6.6	
9	DWSF	0.06	1.69	0.30	12.95	1.41	
	Month 9 Totals	0.1	1.7	0.3	12.9	1.4	
	SEPV Project Maximum Daily	10.4	63.0	76.3	121.0	17.1	
	ICAPCD Threshold	75	550	100	150	N/A	
Exceed Thresholds?		No	No	No	No	IV/A	

The unmitigated impacts from the construction of the entire SEPV would not exceed any threshold.

Level of Significance Before Mitigation: The SEPV Project would not result in construction-related air quality impacts, therefore would result in a less than significant impact.



Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 4: Would the Project result in operational-related air quality impacts?

These facilities would operate seven days a week, 24 hours a day, generating electricity during normal daylight hours when the solar energy is available. The facilities would be remotely operated, controlled, and monitored and with no requirement for daily on-site employees. Local and remote operations and maintenance staff would be on-call to respond to any alerts generated by the monitoring systems, and would be present on the site periodically to perform maintenance.

A part-time operations and maintenance staff of two to three people per project would be responsible for performing all routine and emergency operational and maintenance activities. Such activities include inspections, equipment servicing, site and landscape clearing, and periodic washing of the PV modules if needed (up to four times per year) to increase the performance of the panels. DESF would require approximately 7,000 gallons of water for each routine panel washing operation. Approximately 10,000 gallons of water would be required for DWSF for each routine panel washing operation. Replacement parts and components would be warehoused off site and deployed as needed. Most scheduled maintenance would occur during daytime hours but work may be performed at night for safety reasons.

Table 15 summarizes each site's total project-related annual operational air emissions. The ICAPCD thresholds of significance are also included in this table as well as information regarding whether annual operational emissions would exceed those thresholds. As shown in Table 15, operational emissions would be well below ICAPCD Tier 1 Regional thresholds. Detailed emissions calculations are included in Appendix A.

Table 15 – Estimated Operational Criteria Emissions

Criteria Emissions (

Activity Type	Criteria Emissions (lbs/d)				
Activity Type	ROG	со	NOx	PM ₁₀	PM _{2.5}
Onsite Activity	0.001	0.039	0.005	0.001	0.000
Offsite Activity	0.007	0.260	0.035	0.006	0.003
Dixieland East Solar Farm Total	0.01	0.30	0.04	0.01	0.00
Onsite Activity	0.001	0.039	0.005	0.001	0.000
Offsite Activity	0.007	0.260	0.035	0.006	0.003
Dixieland West Solar Farm Total	0.01	0.30	0.04	0.01	0.00
Maximum Daily for SEPV Project	0.02	0.60	0.08	0.01	0.01
ICAPCD Regional Thresholds	55	550	55	150	NA
Exceed Thresholds?	No	No	No	No	IVA

Level of Significance Before Mitigation: The SEPV Project's operational emissions would not create a significant



quantity of criteria emissions, therefore would result in a less than significant impact.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 5: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts incorporates a summary of projections. The following three-tiered approach is to assess cumulative air quality impacts.

- Consistency with the ICAPCD project specific thresholds for construction and operation;
- Project consistency with existing air quality plans; and
- Assessment of the cumulative health effects of the pollutants.

Project Specific Thresholds

As established previously in **Impact 2**, during construction, after implementation of mitigation measures, emissions of NO_X and PM_{10} are not expected to exceed the ICAPCD regional significance thresholds. It is assumed that construction emissions that do not exceed the project specific thresholds will not result in a cumulative impact.

Air Quality Plans

The area in which the Project is located, is in nonattainment for ozone and PM₁₀. As such, the ICAPCD is required to prepare and maintain an AQMP to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the ICAPCD does not have direct authority over land use decisions, it was recognized that changes in land use and circulation planning were necessary to maintain clean air. As discussed above in **Impact 1**, the Project is compliant with the AQMP and would not result in a significant impact.

Cumulative Health Impacts

The area is in nonattainment for ozone and PM_{10} , which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect the health of sensitive individuals (i.e., elderly, children, and the sick). Therefore, when the concentration of those pollutants exceed the standard, it is likely that some of the sensitive individuals of the population experience adverse health effects.

The localized significance analysis in **Impact 2** demonstrated that during construction activities, no localized significance threshold was expected to be exceeded; therefore, the emissions of particulate matter and NO_X would not result in a significant cumulative health impact.

Level of Significance before Mitigation: The SEPV Project would not result in cumulatively considerable net increase of a precursor to a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.



IMPACT 6: Would the Project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as land uses where sensitive population groups are likely to be located (e.g., children, the elderly, the acutely ill, and the chronically ill). These land uses include residences, schools, childcare centers, retirement homes, convalescent homes, medical care facilities, and recreational facilities. Sensitive receptors that may be adversely affected by the SEPV Project include the surrounding residential land uses.

Impacts to sensitive receptors, particularly from dust, would vary depending on the level and type of activity, the silt content of the soil, and prevailing weather. As mentioned above, the project vicinity consists predominantly of agricultural and undeveloped land with an occasional rural residence.

Even though the SEPV Project has the Imperial Lakes Estates near the SEPV Project's western boundary, the physical proximity to the actual construction activity is not adjacent. It is important to note that distances to potential receptors are measured from the exterior boundary of the project and not from the individual construction project areas within the interior of the site. The SEPV Project's compliance with Regulation VIII will prevent the residences exposure to substantial pollutant concentrations.

Another way a project can establish significance with this impact is the potential to create a CO hotspot. CO hotspots can occur when vehicles are idling at highly congested intersections. According to the TA⁴⁰, the SEPV Project would not create an increase in congestion of the magnitude required to generate a CO hotspot.

During construction activities, diesel equipment will be operating and DPM is known to the State as a TAC. However, the risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined as 24 hours per day, 7 days per week, 365 days per year, for 70 years. The short-term nature of project construction would support that exposure to diesel exhaust emissions during construction would not be significant.

Level of Significance Before Mitigation: The SEPV Project would not expose the public to substantial pollutant concentrations.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 7: Would the Project create objectionable odors affecting a substantial number of people?

The CEQA Guidelines indicate that a significant impact would occur if a project would create objectionable odors affecting a substantial number of people. While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the ICAPCD. Because offensive odors rarely cause any physical harm and no requirements for their control are included in State or federal air quality regulations, the ICAPCD has no rules or standards related to odor emissions, other than its nuisance rule.

The construction and operation of a solar farm is not an odor producer nor located near an odor producer; therefore, the SEPV Project would not result in a significant odor impact.

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Traffic Assessment for: Project No. 1 – SEPV Dixieland East 2MW Solar Photovoltaic Electricity Generating Facility and Project No. 2 - SEPV Dixieland West 3MW Solar Photovoltaic Electricity Generating Facility Imperial County, California. George Dunn Engineering. July 22, 2015.



Level of Significance Before Mitigation: The SEPV Project would not create objectionable odors affecting a substantial number of people.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 8: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction and operation of the SEPV Project would result in a relatively small amount of GHG emissions. The project would generate GHG emissions during construction and routine operational activities at the facilities. During construction, GHG emissions would be generated from operation of both on-road and off-road equipment. Once operational, emissions associated with the SEPV Project would be limited to vehicle trips associated with routine maintenance and monitoring activities at each of the sites.

Solar projects are an integral part of CARB's emission reduction strategy presented in the Scoping Plans. The 2008 Scoping Plan⁴¹ specifically addresses critical complementary measures directed at emission sources that are included in the cap-and-trade program that are designed to achieve cost-effective emissions reductions while accelerating the necessary transition to the low-carbon economy. One of these measures was the Renewables Portfolio Standard (RPS), which was to promote multiple objectives, including diversifying the electricity supply by accelerating the transformation of the Electricity sector, including investment in the transmission infrastructure and system changes to allow integration of large quantities of intermittent wind and solar generation. Therefore, this project complies with an approved GHG emission reduction plan and is presumed to have less-than-significant GHG impacts.

Using the methods developed by the SCAQMD when comparing to their adopted GHG thresholds, GHGs are quantified as the sum of annual operational GHG emissions and total construction GHG emissions amortized over 30 years. Table 16 shows that the amortized construction plus annual operation for the SEPV Project would be 45 tCO₂e per year.

In addition, the SEPV Project would be a renewable source of energy that could displace electricity generated by fossil fuel combustion and provide low-GHG electricity to consumers. Of the potential fossil fuels typically used for power generation, natural gas is one of the cleanest. To provide a conservative estimate, this AQR estimated emissions that would be generated from an equivalent amount of energy produced by natural gas generators. To estimate the reduction in GHG emissions that would be realized by electricity displacement, this AQR assumed that the energy from solar power displaces electricity generated by dispatchable natural gas fired combined-cycle power plants and that the SEPV Project has a capacity factor of 26 percent. Natural gas energy requirements for generation by combined-cycle power plants and emission factors from The Climate Registry were used to estimate the displaced emissions. This AQR estimated the 5 MW generated by the SEPV Project would displace 4,258 tCO₂e per year. Detailed calculations are presented in Appendix A.

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⁴¹ Climate Change Scoping Plan: a framework for change. California Air Resources Board. December 2008.



Table 16 -	SEPV Project GHO	Emissions
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Phase	Source	tCO₂e per Year
-	Dixieland East (DESF)	366.4
uction	Dixieland West (DWSF)	451.4
Construction	SEPV Project Construction Total	818
O	Amortized over 30 years	27
uc	Dixieland East (DESF)	9.0
Operation	Dixieland West (DWSF)	9.0
o	SEPV Project Operational Total	18
Total Annual Emissions		45
	Annually Displaced Emissions	
	Net Project GHG Emissions	(4,213)

Level of Significance Before Mitigation: The SEPV Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

IMPACT 9: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

One of the critical complementary measures directed at emission sources that are included in the cap-and-trade program is the RPS, which places an obligation on electricity supply companies to produce 33 percent of their electricity from renewable energy sources by 2020. A key prerequisite to reaching the target would be to provide sufficient electric transmission lines to renewable resource zones and system changes to allow integration of large quantities of intermittent wind and solar generation. The SEPV Project would help the State meet this goal by generating up to 5 MW of power to California's current renewable portfolio. Therefore, in this regard, the SEPV Project would help the state meet its goals under AB 32.

Neither the County of Imperial or ICAPCD have any specific plans, policies, nor regulations adopted for reducing the emissions of GHGs. However, since the long-term, operational GHG emissions are minimal and the construction emissions are short-term, the SEPV Project would not conflict with any applicable plan, policy, or regulation adopted for reducing the emissions of GHGs.

Level of Significance Before Mitigation: The SEPV Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Mitigation Measures: No mitigation measures are necessary.

Level of Significance After Mitigation: Impacts would be less than significant.

Biological Habitat Assessment

&

Focused Burrowing Owl, Flat-Tailed Horned Lizard & Botanical Surveys

For

SEPV Dixieland East

(24 acres, APN#s 051-047-001,-002 and 051-035-001, -002)

Plaster City, 7.5 Minute Quadrangle,

Section 7, Township 16 S, Range 12 E

Imperial County, California

And

SEPV Dixieland West

(29 acres, APN# 034-390-026)

Plaster City, 7.5 Minute Quadrangle,

Section 12, Township 16 S, Range 11 E

Imperial County, California

Prepared for

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July 3, 2015

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SECTION I – BIOLOGICAL HABITAT ASSESSMENT

1 INTRODUCTION AND PURPOSE

At the request of SEPV Imperial, LLC (client), Phoenix Biological Consulting (consultant) initiated a biological habitat assessment on land totaling approximately 53 acres (SEPV Dixieland West & SEPV Dixieland East) which is proposed for development. The projects are SEPV Dixieland East (APN#s: 051-047-001, -002 and 051-035-001, -002), a ~24 acre site on a ~27 acre property, and SEPV Dixieland West (APN#: 034-390-026), a ~29 acre site on a ~36 acre property. The survey area includes the off-site interconnection as shown in Exhibit 7. Each of the projects proposes to build and operate a 2–3 megawatt (MWac), solar photovoltaic ("PV") electricity generating facility. The projects are located in the Dixieland townsite, an unincorporated area of Imperial County, CA. SEPV Dixieland East is located on the east and west sides of Brown Road, north of West Evan Hewes Highway, and Dixieland West is located at the northwest corner of West Evan Hewes Highway and Carriso Avenue. Representative photographs and maps of the site are included in this report.

As per the California Environmental Quality Act (CEQA), the lead agency requires a project proponent to initiate a habitat assessment to identify sensitive biological resources that may have the potential to occur within a site. This report was completed following a site visit by Ms. Susan Carlton, Associate Biologist at Phoenix Biological Consulting, on April 27th, 2015. Existing biological conditions of the project site were documented, and the site was evaluated for potential biological impacts, including sensitive plant and animal species, wildlife corridors, and possible jurisdictional drainages. Potential mitigation measures were then recommended based on analysis of the results.

2 PROPERTY AND PROJECT DESCRIPTION

2.1 Project Location

The project area is located in the western portion of the Sonoran Desert; situated approximately 11 miles west of El Centro and 5 miles east of Plaster City, in the unincorporated community of Dixieland, in Imperial County, California. The site is approximately 6 miles southwest of the El Centro Naval Air Facility and 1.3 miles north of Interstate 8, in the Plaster City quadrangle of the United States Geographical Survey's (USGS) 7.5 minute topographic map

series (Exhibits 1 and 2). The legal descriptions of the parcels are Section 7, Township 16S, Range 12E, and Section 12, Township 16S, Range 11E, Imperial County, California.

2.2 Project Description

SEPV Imperial, LLC proposes the development and operation of a PV electric generation facility in Dixieland, California. The overall acreage of the proposed project is 53 acres; 24 acres, referred to as SEPV Dixieland East, and 29 acres, referred to as SEPV Dixieland West. The purpose of this project is to utilize solar resources to generate renewable energy.

The proposed SEPV Dixieland East project intends to generate up to 2 megawatts (MWac) of renewable electrical energy and SEPV Dixieland West intends to generate up to 3 MWac of renewable electrical energy by utilizing solar photovoltaic ("PV") modules, mounted on single axis-sun tracking support structures. Electricity generated by SEPV Dixieland East and SEPV Dixieland West will be interconnected to the Imperial Irrigation District (IID) electrical distribution system at a nearby existing IID 12kV distribution line; this off-site interconnection was included in the survey, as shown in Exhibit 7. The project will consist of access roads, PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert electricity from the PV modules from direct current ("DC") electricity to alternating current ("AC") electricity and transfer that electricity to IID's local distribution system; impacting approximately 9 acres of the 24 acre SEPV Dixieland East project area and 10 acres of the 29 acre SEPV Dixieland West project area; with the remaining acreage being designated for impacts related to setbacks, IID's easement, access roads, and spacing between array rows.

The Project's "gen-tie" line will traverse the project site, ~30-50 feet from the IID pole, and cross Broadway Avenue and Brown Avenue to the point of interconnection, at the southwest corner of the site. The fence line for SEPV Dixieland East will be set back approximately 400 feet from West Evan Hewes Highway, and the fence line for SEPV Dixieland East will be set back approximately 100 feet from Evan Hewes Highway. The project facility will be designed to operate year-round and will generate electricity during the daylight hours when electricity demand is at its peak for IID customers.

3 METHODOLOGY

3.1 Field Investigation

On April 27th, 2015, Ms. Susan Carlton, Associate Biologist at Phoenix Biological Consulting, conducted a biological assessment of the project site to determine the potential for special-status biological resources to occur on or within the project vicinity. Weather conditions were suitable for determining potential environmental issues and viewing wildlife. Dominant vegetation communities, topography, soil, possible jurisdictional waterways, and the existing condition of the project area were recorded. The combined biological resources were evaluated for the potential to support special-status wildlife and plant species, and the potential to provide wildlife corridors or linkages. All plant and wildlife species observed during the site visits are listed in Tables 2 and 7.

3.2 Literature Review

A literature review of existing information was conducted in addition to the field investigation. This included a search of the California Native Plant Society (CNPS) database (CNPS 2015), California Natural Diversity Database (CNDDB) (CDFG 2015), and United States Fish and Wildlife Service (USFWS) GIS database and critical habitat maps (USFWS 2014). A query of the CNPS database and CNDDB included the following USGS 7.5-minute California quadrangles: Plaster City, on which the project site is located, and the surrounding quadrangles: Brawley NW, Carrizo Mtn., Coyote Wells, El Centro, Mount Signal, Painted Gorge, Seeley, Superstition Mtn., and Yuha Basin.

Supplemental information reviewed included the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2014). Exhibit 3 depicts the CNDDB occurrences recorded in the vicinity of the project, Exhibit 5 shows the proximity to Areas of Critical Environmental Concern (ACEC) and Audubon Important Bird Areas (IBA), and Table 3 provides a list of special-status species and communities reported in the databases for the aforementioned quadrangles.

4 EXISTING CONDITIONS

4.1 Regulatory Background

Plant and animal species that are designated as Sensitive, or Special-status, are protected under federal and/or state law because they are rare and/or subject to population and habitat declines. This Special-status designation was designed to protect and recover imperiled species and the habitat upon which they depend. The term Special-status is assigned to species with varying levels of regulatory protection, including those species listed as endangered or

threatened under the Federal Endangered Species Act (FESA) and/or California Endangered Species Act (CESA), candidates for endangered or threatened status, California Department of Fish and Game (CDFG) Fully Protected Animals, CDFG Species of Concern (CSC), CDFG rare or sensitive species, and plants listed as rare or endangered under the California Native Plant Protection Act.

4.2 Habitat and Land Use

The project site is situated in the western Sonoran Desert, in the Colorado River Watershed located in Imperial Valley, California; north of Interstate 8 and west of El Centro. The project site is surrounded by relatively undeveloped, moderately disturbed desert scrubland. Open access BLM lands are adjacent to the west and north sides of SEPV Dixieland West, and Westside Main Canal is located to the east of SEPV Dixieland East. A large area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of SEPV Dixieland East.

Disturbance levels for the project site are as follows; SEPV Dixieland West is relatively undisturbed, SEPV Dixieland East (central parcel, APN # 051-035-002) is moderately disturbed, and SEPV Dixieland East (eastern parcels, APN #s 051-047-001 and -002) is disturbed. Major disturbances within the project vicinity include evidence of historic surface flooding/agriculture within SEPV Dixieland East, the Imperial Irrigation District (IID) substation (located north of the SEPV Gen Tie-in line), a concrete lined irrigation canal that intersects the northeastern corner of SEPV Dixieland West and traverses across Brown Road extending through the northern portion of SEPV Dixieland East, and a rural private residence (bordering the SEPV Dixieland East (central parcel). Other disturbances consist of a dirt road that transects the northern portion of SEPV Dixieland West, an existing transmission line and Right of Way that borders the southern and eastern sides of the SEPV Dixieland West boundary, and two major paved roads; Brown Road and Even Hewes Highway. There is also evidence of off-road vehicular travel throughout the project area. Additional disturbances specific to SEPV Dixieland East (eastern parcels) include irrigation rows, with inkweeed (*Suaeda nigra*), a berm that divides the parcel, and a fenced area previously used as a cattle corral.

The dominant habitat types within SEPV Dixieland West parcel consists of approximately 35.5 acres of creosote scrub and 2.5 acres of mesquite. The habitat types within SEPV Dixieland East parcels consist of 4.1 acres of creosote scrub, 19.7 acres of ruderal habitat and 1.1 acres of Tamarix thicket. (Table 1 and Exhibit 4). None of the aforementioned habitat communities are considered sensitive.

Table 1: Percentage of Habitat Types within the project areas

Habitat Type (s)	Location (parcel)	Approx. Acreage	Percentage
SEPV DIXIELAND WEST			
Creosote bush scrub	SEPV West	35.5	93.4%
Mesquite	SEPV West	2.5	6.6%
TOTAL		38	100%
SEPV DIXIELAND EAST			
Creosote bush scrub	SEPV East	4.1	16.5 %
Ruderal	SEPV East	19.7	79.1%
Tamarix thicket	SEPV East	1.1	4.4%
TOTAL		24.9	100%

SEPV Dixieland West and SEPV Dixieland East (central parcel) consist predominately of Creosote bush scrub (*Larrea tridentata*). Creosote bush scrub occurs on alluvial fans, bajadas, upland slopes, and minor intermittent washes at elevations between -75 to 1000 meters. Soils of creosote bush scrub are well drained, with open to intermittent vegetation; sometimes containing desert pavement. Some of the common plant species associated with creosote bush scrub are goldenhead (*Acamptopappus spp.*), ragweed or bursage (*Ambrosia spp.*), and saltbush (*Atriplex spp.*). Within the creosote bush scrub in SEPV Dixieland West, is a patch of western honey mesquite (*Prosopis glandulosa var. torreyana*), which is recognized by the USFWS Wetland Inventory as a nonhydrophyte facultative upland plant that usually occurs in nonwetlands, but may occur in wetlands. Mesquite habitats generally occur on fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes.

SEPV Dixieland East (eastern parcels) is dominated by ruderal habitat, which is composed of non-native herbaceous species that generally colonize areas of sustained disturbance. Plant species associated with ruderal habitats include: tumbleweed (*Salsola tragus*), ripgut (*Bromus diandrus*), red brome (*Bromus madritensis*), and Mediterranean grass (*Schismus spp.*). Ruderal habitat offers limited opportunities for wildlife species due to the lack of native species cover, soil compaction, continued disturbance, lack of species diversity and overall habitat degradation. The northern portion of SEPV Dixieland East (eastern parcels) that was previously used as a cattle corral, is dominated by saltbush (*Atriplex canescens*) scrub re-growth habitat that is recolonizing the area. Saltbush scrub habitat occurs in playas, old beach and shores, lake deposits, dissected alluvial fans, and rolling hills at elevations between -75 and 1500 meters. Soils associated with saltbush scrub are alkaline, sandy or sandy clay loams. The USFWS

Wetland Inventory recognizes *Atriplex canescens* as a nonhydrophyte facultative upland plant that usually occurs in non-wetlands, but may occur in wetlands. This area is classified on Table 1 & Exhibit 4 as ruderal or previously disturbed habitat. The northern edge of SEPV Dixieland East (eastern parcels) is composed of Tamarisk (*Tamarix spp.*), which is associated with arroyo margins, lake margins, ditches, washes, rivers, and other watercourses.

4.3 Topography and Soils

The elevation range of the project site is approximately -34 to -16 feet (-10 to -5 meters) with no observable slope (Exhibit 2). According to the USDA NRCS soil survey, SEPV Dixieland East consists primarily of Meloland fine sand soils, with a small portion of the eastern edge consisting of Meloland very fine sandy loam. SEPV Dixieland West is dominated by Rositas sand 0-2%, with the southwest corner consisting of Rositas fine sand 0-2%, the northeastern corner and eastern edge consisting of Meloland fine sand, and the northwest corner composed of Indio-Vint complex (Exhibit 6).

All soil types within the project site are found on 0-2% slopes. Meloland fine sand is described as well drained with very low runoff, and moderately saline to strongly saline. Meloland very fine sandy loam is also moderately saline to strongly saline, but differs from Meloland find sand, in that it is moderately well drained and has low runoff. Rositas sand 0-2% and Rositas fine sand 0-2% are both described as somewhat excessively drained and very slightly saline to slightly saline, but Rositas fine sand has very low runoff. Indio-Vint complex is composed of loamy to loamy fine sand, is well drained, has low to very low runoff, and is non-saline/very slightly saline to slightly saline.

4.4 Wildlife Corridors and Habitat Connectivity

The concept of wildlife corridors incorporates the idea of linking together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, human disturbance, or encroachment of urban development. The fragmentation of open space by urbanization creates isolated 'islands' of wildlife habitat which can adversely impact genetic and species diversity by restricting the movement, gene flow, and mating potential of wildlife. Wildlife corridors help mitigate the effects of this fragmentation by allowing movement between habitats, promoting genetic exchange, providing escape routes from fire, predators, and human disturbance, and serving as travel paths for animals that require larger home ranges.

Wildlife corridors can exist along drainages, ridgelines, open spaces and utility corridors. The project area is adjacent to open access BLM land to the west and Westside Main Canal to the east; both providing adequate wildlife corridors. No significant impact to habitat connectivity is anticipated, due to the fact that these surrounding federal lands (BLM) and the nearby irrigation canals, which serve as wildlife corridors, will remain intact.

4.5 Proximity to Areas of Critical Environmental Concern (ACEC) and Audubon Important Bird Areas (IBAs)

Areas of Critical Environmental Concern (ACEC) are limited use areas designated and managed by the BLM to protect sensitive biological, historical, and cultural resources; natural process or systems; and/or natural hazards. The Yuha Basin and West Mesa are nearby ACECs that primarily consist of undeveloped open space and are designated as limited use areas to protect sensitive biological and cultural resources; specifically archeological sites and flat-tailed horned lizard habitat. The Yuha Basin is located approximately 2 miles southwest of the project site and West Mesa is located approximately 7.5 northwest of the project site. The project site is not within and does not border a designated ACEC.

Audubon Important Bird Areas (IBAs) are areas designated by scientists as critically important because they provide habitat during breeding, wintering, and migrating seasons, for endangered birds, birds with small or limited ranges, or birds that congregate in high numbers. The project site is within an IBA. Nesting birds are covered under the Migratory Bird Treaty Act (MBTA), all potential bird species should be included in a nesting bird survey if the project occurs during the months of February to August.

4.6 Jurisdictional Drainages

The U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) collectively regulate jurisdictional waters of the U.S. and state. A GIS analysis and database query was executed prior to the site visit. The database exercise queried the following sources for jurisdictional drainages: Aerial photographs of the project site to determine the potential locations of USACE, RWQCB, and CDFW jurisdictional waters or wetlands; USGS topographic map (Exhibit 2) to determine the presence of any drainages or other mapped water features; USFWS NWI maps to identify areas mapped as wetland features; USDA soil mapping data; and USGS Hydrologic Layers.

Based on the results of the field site visit and the database query, there are several, small ephemeral jurisdictional waterways present. Blue line drainages are not present on the corresponding USGS quadrangle nor are they present in USFWS wetland inventory maps. There is evidence of cracked, clay soils, scour marks and deposition along the eastern portion of SEPV Dixieland West. Due to the potential jurisdictional waterways on the project site, a jurisdictional delineation was conducted and the results, produced by Phoenix Biological Consulting, are attached in Appendix A.

5 RESULTS

5.1 Field Investigation Results

During the habitat assessment site visit, the entire property was inspected for potential biological constraints. SEPV Dixieland West was found to be relatively undisturbed with creosote bush (*Larrea tridentata*), western honey mesquite (*Prosopis glandulosa* var. *torreyana*) and caleb saltbush (*Atriplex canescens* var. *laciniata*). Mediterranean Splitgrass was the only living annual observed. SEPV Dixieland East (central parcel) was found to be partly disturbed with creosote bush, caleb saltbush, alkali goldenbush (*Isocoma acradenia*) and inkweed (*Suaeda nigra*). SEPV Dixieland East (eastern parcels) have the greatest plant diversity, dominated by inkweed. The plant species detected on site during the botanical surveys are listed in Table 7.

No special status wildlife or plant species were observed during the habitat assessment. All wildlife detected during the site visit are listed in Table 2. No flat-tailed horned lizard (*Phrynosoma mcallii*) signs and no western burrowing owl (*Athene cunicularia*) signs were detected. However, protocol surveys for these species were initiated and are addressed in section II of this report.

Table 2: Vertebrates Detected During Site Visit

Birds	
Great-tailed Grackle (Quiscalus mexicanus)	
House Finch (Carpodacus mexicanus)	
MacGillivray's Warbler (Geothlypis tolmiei)	
Mourning dove (Zenaida macroura)	
Nuttall's Woodpecker (<i>Picoides nuttallii</i>)	

Red-tailed hawk (Buteo jamacensis)	
Turkey Vulture (Cathartes aura)	
Western kingbird (<i>Tyrannus verticalis</i>)	
Mammals	
Black-tailed jackrabbit (Lepus californicus)	
Coyote (Canis latrans)-forage holes	
Kangaroo rat (Dipodomys sp.) tracks only.	
Round-tailed ground squirrel (Xerospermophilus tereticaudus)	
Reptiles	
Desert Iguana (Dipsosaurus dorsalis)	
Western whiptail (Aspidoscelis tigris)	

5.2 CNDDB Rarefind Database and Literature Review Results

A thorough California natural diversity database (CNDDB) literature review was conducted to determine which species occur within a ten mile search radius of the site (Table 3). Twenty-six sensitive species were detected within the ten mile CNDDB search radius. An additional sixteen special status target species, considered for potential occurrence, were included in the search results. Multiple habitat types fall within the ten mile radius; therefore, several species fall out of range limits for potential habitat type given the specific characteristics of the site.

5.2.1 <u>Threatened or Endangered Wildlife Species</u>

The literature review process identified three federal and/or state of California endangered and/or threatened wildlife species known to occur within the CNDDB ten mile search radius of the project site: California black rail (*Laterallus jamaicensis coturniculus*), Yuma clapper rail (*Rallus longirostris yumanensis*), and barefoot gecko (*Coleonyx switaki*). Based on habitat requirements and geographic restrictions, no species listed as state or federally endangered and/or threatened included in the literature search results is likely to occur on the project site.

5.2.2 Sensitive Wildlife Species

The California Species of Concern and/or CDFW sensitive species that are either known to occur within the CNDDB ten mile search radius, or are target species of concern, have the potential to occur on the project site:

o burrowing owl (Athene cunicularia)

- o prairie falcon (Falco mexicanus)
- o loggerhead shrike (Lanius ludovicianus)
- lowland leopard frog (Lithobates yavapaiensis)
- Colorado Valley woodrat (Neotoma albigula venusta)
- o flat-tailed horned lizard (Phrynosoma mcallii)
- o vermillion flycatcher (*Pyrocephalus rubinus*)
- American badger (Taxidea taxus)
- Le Conte's thrasher (Toxostoma lecontei)
- Colorado Desert fringe-toed (Uma notate)

Detailed information regarding the status of these potentially occurring California species of concern, along with their distribution, habitat requirements, and recommended protection measures are listed in sections 5.2.3, 5.2.5, and 5.2.6.

5.2.3 <u>Birds</u>

The CNDDB literature review process identified the occurrence of the burrowing owl (*Athene cunicularia*), Mountain Plover (*Charadrius montanus*), California black rail (*Laterallus jamaicensis coturniculus*), vermillion flycatcer (*Pyrocephalus rubinus*), Yuma clapper rail (*Rallus longirostris yumanensis*), and Le Conte's thrasher (*Toxostoma lecontei*) within a ten mile radius. Other sensitive bird species, not included in the CNDDB ten-mile search results, but worth noting due to their declining status in the region, are the prairie falcon (*Falco mexicanus*) and loggerhead shrike (*Lanius ludovicianus*). Of the bird species identified through the CNDDB literature search, none have the potential to occur within the project area. Those species in which suitable habitat is present are detailed below, however, these species are considered absent since they were not detected during focused surveys:

- O Burrowing owl Federal: None, State: CSC, G4/S3
 Inhabits open grassland, shrub-grasslands, savannas, farmland, prairies, vacant lots, airfields, and other open areas. Prefers flat open ground with bare soil or short grass. The presence of burrows is an essential component to burrowing owl habitat. Typically uses burrows excavated by other animals, such as ground squirrels or badgers, but may also use man-made structures. Artificial burrows may include culverts, concrete pipes, debris piles, and openings beneath cement and asphalt. Commonly found in early successional plant communities because ground cover is low with open cover; ideal conditions for burrow selection.
- o Prairie falcon Federal: None, State: None, G5/S4

Typically found in fairly arid open country, including deserts, grasslands, and high mountains (above tree line). Winters in farmland, around lakes and reservoirs, and sometimes found in southwestern cities. Nests on cliff edges and rock outcroppings; sometimes nests on dirt bank or in abandoned nest of raven or hawk.

- Loggerhead shrike Federal: None, State: CSC, G4/S4
 Occupies semi-open terrain, in wooded regions with large clearings and open grassland or desert with a few scattered trees or large shrubs. Often found along mowed roadsides with fence lines and utility poles for perching.
- Vermillion flycatcher Federal: None, State: CSC, G5/S2S3
 Inhabits scrub, deserts, cultivated lands, and riparian woodlands. Generally found along streams or pond edges in arid country, savannas, and ranches. Occasionally found in dry grasslands or desert with scattered trees.
- LeConte's thrasher Federal: None, State: CSC, G4/S3
 Habitat consists of desert flats with scattered low shrubs, especially sparse saltbush growth, and sometimes creosote bush flats with a few slightly larger mesquites or cholla cactus.

Since all nesting birds are covered under the Migratory Bird Treaty Act (MBTA), all potential bird species should be included in a nesting bird survey if the project occurs during the months of February to August. A focused burrowing owl survey was conducted during the spring of 2015 and the results are presented in section II.

Due to habitat requirements, the California black rail and Yuma clapper rail are not likely to occur on the project site. The California black rail inhabits high coastal marshes to freshwater marshes along the Colorado River, and the Yuma clapper rail is found in freshwater marshlands containing dense stands of emergent vegetation. The project site is primarily composed of creosote bush scrub and ruderal habitat, and lacks the marshland habitat required for both rail species. The mountain plover is also not likely to occur, because its breeding habitat is out of geographic range. Mountain plover are known to be frequent agriculture fields in the desert during winter months. However, no agriculture fields are present on the site. The mountain plover breeds in southern Canada and the central U.S. including, Montana, Wyoming, Colorado, and New Mexico.

5.2.4 Invertebrates

No sensitive invertebrate species were found within the ten-mile CNDDB search radius.

5.2.5 <u>Mammals</u>

The CNDDB literature review process identified the western yellow bat (*Lasiurus xanthinus*), Colorado Valley woodrat (*Neotoma albigula venusta*), Yuma hispid cotton rat (*Sigmodon hispidus eremicus*), and American badger (*Taxidea taxus*) within the CNDDB ten-mile search radius. Of those mammal species, the Colorado Valley woodrat has potential to occur in the project area.

Colorado Valley woodrat – Federal: None, State: None, G5T3T4 / S1S2 Common in low-lying desert areas; often associated with the presence of prickly pear and mesquite. Distribution is highly influenced by the abundance of den building materials such as, cholla, prickly pear, mesquite, and catclaw. On the project site, den building materials are present among the mesquite and tamarisk trees.

Suitable habitat for the American badger exists in the project area, however, no badger dens or evidence of badger was observed during focused surveys, so this species is considered absent. The Yuma hispid cotton rat is not likely to occur within the project site, because the preferred habitat does not exist within the project area. The Yuma hispid cotton rat is primarily found near the Colorado River in riparian habitats and agricultural lands. The western yellow bat (*Lasiurus xanthinus*) is also not likely to occur on the project site due to the lack of preferred roosting habitat. The western yellow bat prefers riparian woodland habitat, and, in California, the western yellow bat appears to roost exclusively in the skirts of palm trees, which do not occur within the project area.

5.2.6 Reptiles and Amphibians

The CNDDB literature review process identified the following species known to occur within a ten-mile search radius: the barefoot gecko (*Coleonyx switaki*), lowland (=Yavapai, San Sebastian & San Felipe) leopard frog (*Lithobates yavapaiensis*), flat-tailed horned lizard (*Phrynosoma mcallii*), and Colorado Desert fringe-toed (*Uma notata*). Of those species identified through the CNDDB literature search, none have the potential to occur within the project area. Those species in which suitable habitat is present are detailed below, however, these species are considered absent since they were not detected during focused surveys:

Flat-tailed horned lizard – Federal: None, State: CSC, G3/S2
 Inhabits sandy desert hardpan and gravel flats with scattered sparse vegetation of low species diversity. Most common in areas of fine windblown sand, but rarely occurs on

dunes. Favorable habitat may include creosote bush, bur-sage, indigo bush, saltbush, ocotillo, and salt cedar.

Colorado Desert fringe-toed – Federal: None, State: CSC, G3/S2
 Habitat includes arid areas of sparse vegetation and fine wind-blown sand; including dunes, washes, river banks, and flats with sandy mounds around the base of vegetation.

 Requires fine, loose sand for burrowing.

Protocol surveys for the flat-tailed horned lizard were initiated during the spring of 2015 in accordance with the Flat-tailed Horned Lizard Rangewide Management Strategy to determine the presence of this species within the project area.

The barefoot gecko, a state of California threatened species, and the lowland leopard frog, a California species of concern, are not likely to occur on the project site due to lack of habitat. The barefoot gecko inhabits areas with large boulders and rocky outcrops, with sparse vegetation; in arid regions on flatlands, canyons and desert foothills. The lowland leopard frog inhabits rivers, streams, cattle tanks, agricultural canals, ditches, river side channels, springs, ponds and other aquatic systems, which are absent on the project site.

5.2.7 <u>Fish</u>

No sensitive fish species were found within the ten-mile CNDDB search radius, and no viable waterways are present within the project area that might support sensitive fish species.

5.2.8 Rare Plants

The CNDDB literature review identified several sensitive plant species that have the potential to occur in the area. Based on the vegetation communities on site and in the surrounding area, and the elevation and general location of the site, the following species have been identified as having the potential to occur within the project site, but they are considered absent since they were not observed during focused surveys: chaparral sand-verbena (*Abronia villosa var. aurita*), Salton milk-vetch (*Astragalus crotalariae*), gravel milk-vetch (*Astragalus sabulonum*), Abrams' spurge/Abrams' sandmat (*Euphorbia abramsiana/Chamaesyce abramsiana*), California satintail (*Imperata brevifolia*), Copper rush (*Juncus cooperi*), mud nama (*Nama stenocarpum*), roughstalk witch-grass (*Panicum hirticaule var. hirticaule*), desert unicorn-plant (*Proboscidea althaeifolia*), and the dwarf Germander (*Teucrium cubense ssp. depressum*). Many of the rare plants species within the CNDDB literature review search have a low potential of occurring because they are associated with areas of sand dunes within the Imperial Valley. The project is generally suitable for some of the suspected rare plants, but because the project area has been altered by

periodic natural and anthropogenic over-flooding, much of the soils/biota have been rendered limited for supporting upland-dwelling rare plant taxa.

Table 3: CNDDB and CNPS Search Results & Habitat Potential

Scientific Name; Common Name	Status	General Habitat Description				
		Birds				
Athene cunicularia; burrowing owl	Federal: None State: CSC G4 / S3	Inhabits open grassland, shrub-grasslands, savannas, farmland, prairies, vacant lots, airfields, and other open areas. Prefers flat open ground with bare soil or short grass. Typically uses burrows excavated by other animals. Commonly found in early successional plant communities because ground cover is low with open cover; ideal conditions for burrow selection.	Absent; not observed during surveys.			
Charadrius montanus; Mountain Plover	Federal: None State: CSC G3 / S2?	Breeds in open plains in Canada and central US. Nests in areas characterized by very short vegetation, with at least 30% bare ground, and flat or gentle slopes. Overwinters from Sacramento, CA to Mexico on dry barren ground, smooth dirt fields, sandy deserts and shortgrass prairies. In southern California, heavily grazed native rangelands are preferred for wintering. Found at moderate elevations. Prefers alkali flats and generally avoids moist soils.	Absent; not observed during surveys.			
Falco mexicanus; prairie falcon	Federal: None State: None G5 / S4	Typically found in fairly arid open country, including deserts, grasslands, and high mountains (above tree line). Winters in farmland, around lakes and reservoirs, and sometimes found in southwestern cities. Nests on cliff edges and rock outcroppings; sometimes nests on dirt bank or in abandoned nest of raven or hawk.	Absent; not observed during surveys.			
Lanius Iudovicianus; loggerhead shrike	Federal: None State: CSC G4 / S4	Occupies semi-open terrain, in wooded regions with large clearings and open grassland or desert with a few scattered trees or large shrubs. Often found along mowed roadsides with fence lines and utility poles for perching.	Absent; not observed during surveys.			
Laterallus jamaicensis coturniculus; California black rail	Federal: None State: T G3G4T1 / S1	Inhabits a variety of areas from high coastal marshes to freshwater marshes along the Colorado River. In saltmarshes, favors areas dominated by pickleweed, bulrushes, and matted salt grass. Along the Colorado River, prefers areas of shallow water with flat shorelines with dense stands of three-square bulrush. Nests in or along edge of marsh.	Absent; not observed during surveys.			
Pyrocephalus rubinus; vermillion flycatcer	Federal: None State: CSC G5 / S2S3	Inhabits scrub, deserts, cultivated lands, and riparian woodlands. Generally found along streams or pond edges in arid country, savanna, and ranches. Occasionally found in dry grasslands or desert with scattered trees.	Absent; not observed during surveys.			
Rallus longirostris yumanensis; Yuma clapper rail	Federal: E State: T G5T3 / S1	Inhabits freshwater marshlands containing dense stands of emergent riparian vegetation; preferred habitat dominated by cattails and bulrushes. Requires wet substrate (mudflat, sandbar) with dense woody or herbaceous vegetation for nesting and foraging, and a mosaic of vegetated areas interspersed with areas of shallow (<12") open water areas. Typically found below 4,500 feet in elevation.	Absent; not observed during surveys.			
Toxostoma lecontei; Le Conte's thrasher	Federal: None State: CSC G4 / S3	Habitat consists of desert flats with scattered low shrubs, especially sparse saltbush growth, and sometimes creosote bush flats with a few slightly larger mesquites or cholla cactus.	Absent; not observed during surveys.			
		Invertebrates				
		None				

Scientific Name; Common Name	Status	tus General Habitat Description					
Plants, Bryophytes, and Lichens							
	Federal: None						
Abronia villosa var. aurita; chaparral sand-	State: None	Annual, uncommon in California. Inhabits sandy areas in chaparral,	Absent; not observed during				
verbena	CNPS: 1B.1	coastal scrub, and desert dunes. Occurs below 1600 meters.	surveys.				
	G5T3T4 / S2						
	Federal: None						
Astragalus crotalariae;	State: None	Inhabits sand dunes and desert scrub habitat. Known to occur in	Absent; not observed during				
Salton milk-vetch	CNPS: 4.3	disturbed habitats along roadsides.	surveys.				
	G4G5 / S4						
	Federal: None						
Astragalus insularis var. harwoodii; Harwood's	State: None	Habitat includes creosote bush scrub. Found in open sandy flats or	Absent; not observed during				
milk-vetch	CNPS: 2B.2	gravelly desert dunes up to 710 meters in elevation.	surveys.				
	G5T3 / S2						
	Federal: T						
Astragalus magdalenae var. peirsonii; Peirson's	State: E	Inhabits mobile sand dunes in creosote bush scrub. Often grows in	Absent; not observed during surveys.				
milk-vetch	CNPS: 1B.2	conically shaped hollows on the leeward side of the dunes					
	G3G4T2 / S2						
	Federal: None	Annual, rare in California. Occurs in desert scrub and desert dunes. Found in flats, washes, and roadside, in sandy and gravelly soils. From - 60 to 930 meters in elevation.	Absent; not observed during surveys.				
Astragalus sabulonum;	State: None						
gravel milk-vetch	CNPS: 2B.2						
	G5 / S2						
	Federal: None		Absent; not observed during surveys.				
Calliandra eriophylla;	State: None	Occurs in creosote bush scrub, in sandy washes, slopes, and mesas.					
pink fairy-duster	CNPS: 2B.3	Elevations range up to 1500+ meters.					
	G5 / S2S3						
	Federal: None						
Castela emoryi; Emory's	State: None	Inhabits desert scrub; including playas, slopes and dry washes Found in	Absent; not observed during				
crucifixion-thorn	CNPS: 2B.2	gravelly soils. Elevation range between 90 and 725 meters.	surveys.				
	G4 / S2S3						
Euphorbia	Federal: None						
abramsiana/Chamaesyce	State: None	Occurs in sandy habitats; Mojavean desert scrub and Sonoran desert	Absent; not observed during				
abramsiana; Abrams' spurge/Abrams' sandmat	CNPS: 2B.2	scrub. Elevation range -5 to 915 meters.	surveys.				
spurge/Abrams sandmat	G4 / S2						
	Federal: None						
Croton wigginsii;	State: Rare	Shrub, rare in California. Occurs in creosote bush scrub; in sand dunes	Absent; not observed during				
Wiggins' croton	CNPS: 2B.2	and along sandy arroyos below 100 meters.	surveys.				
	G2G3 / S2						
	Federal: None						
Cryptantha costata;	State: None	Annual herb that occurs in sandy habitats; desert dunes, Mojavean					
Ribbed Cryptantha	CNPS: 4.3	desert scrub, and Sonoran desert scrub. Elevation range from -60 to 500 meters.					
	G4G5 / S4						

Scientific Name; Common Name	Status	General Habitat Description	Occurrence Potential					
	Plants, Bryophytes, and Lichens cont.							
Funastrum utahense; Utah Vine Milkweed	Federal: None State: None CNPS: 4.2 G4 / S4	Inhabits open, dry, sandy, or gravelly areas. Occurs in shallow upland drainages between 100 and 1435 meters.	Absent; not observed during surveys.					
Helianthus niveus subsp. Tephrodes; Algodones Dunes Sunflower	Federal: None State: E CNPS: 1B.2 G4T2T3 / S2	Occurs in sand dunes in creosote bush scrub between 50 and 100 meters.	Absent; not observed during surveys.					
Imperata brevifolia; California satintail	Federal: None State: None CNPS: 2B.1 G3 / S3	A perennial herb that occurs in mesic habitats; chaparral, coastal scrub, Mojavean desert scrub, alkali meadows and seeps, and riparian scrub. Elevation range between 0 and 1215 meters.	Absent; not observed during surveys.					
Ipomopsis effusa; Baja California ipomopsis	Federal: None State: None CNPS: 2B.1 G3?/S1	Occurs on alluvial-fans in creosote bush scrub and chaparral habitats. Most common in desert washes below 100 meters. Known only in CA from Pinto Wash.	Absent; not observed during surveys.					
Juncus cooperi; Copper rush	Federal: None State: None CNPS: 4.3 G4 / S3	A native perennial herb that occurs in alkali sink and wetland-riparian habitats below 700 meters.	Absent; not observed during surveys.					
Lycium parishii; Parish's desert-thorn	Federal: None State: None CNPS: 2B.3 G3? / S1	Habitat includes creosote bush scrub and coastal sage scrub. Found on sandy to rocky slopes and canyons. Elevation range between 135 and 1,000 meters.	Absent; not observed during surveys.					
<i>Malperia tenuis</i> ; brown turbans	Federal: None State: None CNPS: 2B.3 G4? / S2	Annual, uncommon in California. Found in sandy and gravelly soils in creosote-bush scrub. Known west of SEPV in Plaster City area. Elevation range between 15 and 335 meters.	Absent; not observed during surveys.					
Mentzelia hirsutissima; hairy stickleaf	Federal: None State: None CNPS: 2B.3 G4/S3	Inhabits rocky sites, especially coarse rubble, talus slopes, washes, and alluvial fans in creosote bush scrub, from -5 to 720 meters.	Absent; not observed during surveys.					
Nama stenocarpum; mud nama	Federal: None State: None CNPS: 2B.2 G4G5 / S1S2	Occurs in freshwater wetland and wetland-riparian communities. Found in riparian areas, along lake-margins, stream banks, and edges in wet alkaline soils. Elevation range between 5 and 500 meters.	Absent; not observed during surveys.					
Nemacaulis denudata var. gracilis; Slender cottonheads	Federal: None State: None CNPS: 2B.2 G3G4T3? / S2	An annual herb that occurs in coastal dunes below 100 meters.	Absent; not observed during surveys.					

Scientific Name; Common Name	Status	General Habitat Description	Occurrence Potential				
Plants, Bryophytes, and Lichens cont.							
Palafoxia arida var. gigantea; Giant spanish needle	Federal: None State: None CNPS: 1B.3 G5T3 / S2	Root parasite. Inhabits sand dunes below 100 meters in creosote bush scrub and alkali sink communities.	Absent; not observed during surveys.				
Panicum hirticaule var. hirticaule; Roughstalk witch-grass	Federal: None State: None CNPS: 2B.1 G5T5 / S1	Inhabits sandy, silty, depressions in desert dunes, Joshua tree woodlands, Mojavean desert scrub, and Sonoran desert scrub. Elevation range between 45 and 1315 meters.	Absent; not observed during surveys.				
<i>Pholisma sonorae</i> ; Sand Food	Federal: None State: None CNPS: 1B.2 G2/S2	A parasitic perennial herb that occurs in low desert (below 200 meters) on dunes in drifting deep sand. Common host plants include <i>Eriogonum deserticola</i> , <i>Tiquilia plicata</i> , <i>and Tiquilia palmeri</i> . Also recorded on <i>Croton wigginsii</i> , <i>Palafoxia arida</i> , <i>Ambrosia spp.</i> , <i>and Pluchea spp</i> .	Absent; not observed during surveys.				
Pilostyles thurberi; Thurber's pilostyles	Federal: None State: None CNPS: 4.3 G5 / S4	A parasitic perennial herb that grows in <i>Psorothamnus</i> and inhabits open creosote bush scrub below 300 meters in elevation.	Absent; not observed during surveys.				
Proboscidea althaeifolia; Desert unicorn-plant	Federal: None State: None CNPS: 4.3 G5 / S4	A perennial herb that occurs in sandy areas below 1000 meters.	Absent; not observed during surveys.				
Teucrium cubense ssp. depressum; Dwarf Germander Federal: None State: None CNPS: 2B.2 G4G5T3T4 / S2		Inhabits sandy soils in washes, fields, and alkali flats. Elevation range between 45 and 400 meters.	Absent; not observed during surveys.				
		Mammals					
Lasiurus xanthinus; western yellow bat			Unlikely; lack of preferred roosting locations				
<i>Neotoma albigula</i> <i>venusta</i> ; Colorado Valley woodrat	Federal: None State: None G5T3T4 / S1S2	Common in low-lying desert areas; often associated with the presence of prickly pear and mesquite. Distribution is highly influence by the abundance of den building materials such as, cholla, pricly pear, mesquite, and catclaw.	Possible				
Sigmodon hispidus eremicus; Yuma hispid cotton rat	Federal: None State: CSC G5T2T3 / S2S3	Inhabits agricultural lands and riparian habitats. Found mostly near the Colorado River or along sloughs adjacent to the river in brushy or weedy areas. Most common in marshes, but also in cottonwood-willow, screwbean mesquite, saltcedar, and saltcedar-honey mesquite associates. Also in frequently irrigated fields of Bermuda grass.	Unlikely				
<i>Taxidea taxus;</i> American badger	Federal: None State: CSC G5 / S3	Found in relatively dry grasslands, sagebrush meadows, valleys, and open forests. Prefers open areas with little groundcover, and enough soil to dig in. Occupies underground burrows when inactive. Elevation range from sea level to 3,600 meters.	Absent; no dens present and no evidence of badger on site				

Scientific Name; Common Name	Status	General Habitat Description	Occurrence Potential					
		Reptiles & Amphibians						
Coleonyx switaki; barefoot gecko	Yeare I Prefers areas with large houlders and rock outcrons, with snarse							
Lithobates yavapaiensis; lowland (=Yavapai, San Sebastian & San Felipe) leopard frog	Federal: None State: CSC G4 / SX	Inhabits rivers, streams, cattle tanks, agricultural canals, ditches, river side channels, springs, ponds and other aquatic systems. Usually found in scrub desert, grasslands, woodlands, and pinyon-juniper habitats up to 6,000 feet in elevation. Egg and larvae develop in quiet waters.	Unlikely; lack of habitat					
Phrynosoma mcallii; flat- tailed horrned lizard	' I windblown sand but rarely occurs on dunes. Eavorable babitat may. I observed during							
<i>Uma notata</i> ; Colorado Desert fringe-toed	I State: (SC I cand: including dunes washes river hanks and flats with candy mounds I observed dur							
Fish								
	None							
	Sensitive Habitat Types							
		None						

Federal and State Listings: E = Endangered; T = Threatened; R = Rare; C = Candidate.

For special-status plant species definitions see tables below.

Likelihood of occurrence based on species' habitat requirements and the presence of required habitat in the project site.

PRESENT = this species was observed on site during the botanical surveys conducted for this assessment

KNOWN = the species has been reported as inhabiting or frequenting the project site

LIKELY = required habitat exists at the project site and/or has been reported nearby

POSSIBLE = Marginal required habitat exists onsite, and/or required habitat exists in surrounding areas

UNLIKELY = required habitat does not exist at the project site nor does it exist nearby

ABSENT = habitat type or species will not be present based on lack of suitable habitat or range restrictions or species was not observed during focused surveys.

The California Native Plant Society (CNPS) has created 5 lists (or ranks) in an effort to categorize degrees of concern. The California Rare Plant Rank (CRPR) is described below in Table 4. Plants that fall under list 2A or 2B are plants that are rare, threatened, or endangered in California, but are more common elsewhere. All of the plants constituting California Rare Plant Rank 2A or 2B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. (Tibor, ed. 2001). It is mandatory that they be fully considered

during preparation of environmental documents relating to CEQA. The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a .1 to .3 ranking with .1 being the most threatened, .2 being fairly threatened, and .3 being not very threatened. The CNPS Threat Rank extension replaces the previously used CNPS R-E-D Code, which consisted of one number (1, 2, or 3) for each of the three categories (Rarity-Endangerment-Distribution).

Table 4: California Rare Plant Rank (CRPR)

CNPS List	Definition
1A	Presumed Extinct in California, rare or extinct elsewhere
1B	Rare or Endangered in California and elsewhere
2A	Presumed Extinct in California, more common elsewhere
2B	Rare and Endangered in California, more common elsewhere
3	Plants for which we need more information
4	Plants of limited Distribution

The CNDDB Element Ranking system provides a numeric global and state ranking system for all special-status species tracked by the CNDDB. The global rank (G-rank) is a reflection of the overall condition of an element (species or natural community) throughout its global range. The state rank (S-rank) is assigned much the same way as the global rank, except state ranks in California often also contain a threat designation attached to the S-rank. The letter number score of both the global and state ranks reflect a combination of the Rarity, Threat, and Trend factors, with weighting being heavier on the Rarity factor. This Element Ranking system is defined below in Table 5, California Natural Diversity Database Element Ranking System.

Table 5: California Natural Diversity Database Element Ranking System

	Global Ranking (G)
G1	Critically Imperiled – At very high risk of extinction due to rarity; less than 6 viable elements occurrences (populations for species).
G2	Imperiled – At high risk of extinction due to restricted range and few populations; 6 to 20 element occurrences.
G3	Vulnerable – At moderate risk of extinction; 21 to 100 element occurrences.
G4	Apparently Secure – Uncommon but not rare; this rank is clearly lower than G3, but factors exist to cause some concern (i.e. there is some threat, or somewhat narrow habitat).
G5	Secure - Population, or stand, commonly found in the world; widespread and abundant.
GH	All sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.

GX	All sites are extirpated ; this element is extinct in the wild.
GXC	Extinct in the wild; exists in cultivation.
G1Q	The element is very rare, but there is a taxonomic question associated with it.
Subspe of the	cies Level: cies receive a T-rank attached to the G-rank. With the subspecies, the G-rank reflects the condition entire species, whereas the T- rank reflects the global situation of just the subspecies or variety. xample: Chorizanthe robusta var. hartwegii is ranked G2T1. The G-rank refers to the whole species
	State Ranking (S)
S1	Critically Imperiled – Less than 6 element occurrences. S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known
S2	Imperiled – 6 to 20 element occurrences. S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known
S 3	Vulnerable – 21 to 100 element occurrences. \$3.1 = very threatened \$3.2 = threatened \$3.3 = no current threats known
S4	Apparently Secure within California; this rank is clearly lower than S3 but factors exist to cause some concern (i.e., there is some threat, or somewhat narrow habitat). NO THREAT RANK.
S5	Demonstrably Secure to ineradicable in California. NO THREAT RANK.
SH	All California sites are historic ; the element has not been seen for at least 20 years, but suitable habitat still exists.

6 HABITAT ASSESSMENT SUMMARY

SX

The California Natural Diversity Database (CNDDB) and literature review revealed that several sensitive species are known to occur within a ten mile radius. The results of the habitat assessment indicate that no species listed as threatened or endangered, under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA), are likely to occur within the project area.

All California sites are **extirpated**; this element is extinct in the wild.

No special status wildlife species were observed on site during the field investigations. The only special status wildlife species with the potential to occur on site is the Colorado Valley woodrat (*Neotoma albigula venusta*). Focused surveys for the burrowing owl and the flat-tailed horned lizard were implemented during the 2015 spring survey session and are addressed in Section II.

It is recommended that a biological monitor is present during the clearing & grubbing of SEPV Dixieland West to relocate and remove any potential sensitive species that may have been unaccounted for during the focused surveys, such as the Colorado Valley woodrat.

The vegetation habitat within and adjacent to the project site is suitable for providing nesting opportunities for avian species as evidenced in the red-tailed hawk nest northeast of SEPV Dixieland West. Since all nesting birds are covered under the Migratory Bird Treaty Act (MBTA), if any ground disturbance is anticipated during nesting bird season (February – August), a nesting bird survey should be conducted by a qualified biologist to ensure that no nesting birds are impacted.

There are potential jurisdictional waterways present within SEPV Dixieland West. A formal jurisdictional delineation has been conducted and is addressed in Appendix A. No other potential biological constraints, such as impacts to wildlife corridors, Areas of Critical Environmental Concern (ACEC), or Audubon Important Bird Areas (IBAs) were identified.

SECTION II – FOCUSED SURVEY RESULTS

7 JUSTIFICATION FOR CONDUCTING FOCUSED SURVEYS

Based on the results of the habitat assessment (Section I) focused surveys were conducted for the burrowing owl (BUOW; *Athene cunicularia*), flat-tailed horned lizard (FTHL; *Phrynosoma mccalli*) and rare plants during the spring of 2015.

8 METHODLOGY

Burrowing owl, flat-tailed horned lizard and rare plant surveys were conducted during the spring of 2015. The burrowing owl and flat-tailed horned lizard surveys were conducted by Ryan Young and Erin Whitfield. Mr. Young and Ms. Whitfield have both been approved by CDFW to survey, monitor and handle FTHL lizards. The rare plant surveys were conducted by Phoenix botanist David Silverman. Survey methodology for the BUOW and FTHL incorporated the *Staff Report on Burrowing Owl Mitigation* (CDFW, 2012) and the *Flat-tailed horned lizard rangewide management strategy* (ICC, 2003).

The burrowing owl surveys were conducted by walking straight-line transects spaced 7 m to 20 m apart, adjusting for vegetation height and density. At the start of each transect and, at least, every 100 m, the entire visible project area was scanned for burrowing owls using binoculars. During the pedestrian surveys, the biologists recorded all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration. The field biologists also paused at regular intervals to listen for owl vocalizations. Survey teams used hand-held mirrors to view into any potential burrows. Buffer zone surveys were conducted out to 150 meters from the project edge. The owl surveys started approximately a half hour after sunrise and ending no later than a half hour before sunset.

The FTHL surveys focused on finding horned lizards, along with both scat and potential tracks. The FTHL surveys were conducted from April through June when air temperatures were between 25 and 37 °C (75 and 100 °F). Four site visits were included in the FTHL surveys and each site visit lasted for over four to eight hours. The FTHL surveys started when temperatures were within the above mentioned thermal zone. All lizard species observed during the FTHL surveys were recorded. Surveys were conducted in all portions of the project site and buffer areas that were identified in the habitat assessment.

9 WEATHER

Weather conditions during the spring survey effort consisted of mild to hot weather in the Colorado Desert. Winter rainfall of 2014-15 continued to be far below average and drought conditions persist throughout the state of California. Annual plant abundance was low and may have contributed to negative rare plant findings. The morning and afternoon temperatures were taken to ensure surveys were within acceptable parameters for the BUOW and FTHL.

Begin Temp End Temp Begin Wind End Wind Begin End Date Cloud % Cloud % (MPH) (MPH) (°F) (°F) 03/25/15 78 82 2 15 8 8 03/26/15 78 83 5 10 5 11 5 04/16/15 80 86 5 Calm Calm 5 5 04/17/15 81 87 Calm 5 05/25/15 70 84 0 0 0 6 05/26/15 70 85 0 3 0 0 06/17/15 95 0 5 80 10 11

0

95

81

Table 6: Weather Summary for Surveys

10 RESULTS

06/18/15

10.1 Field Results

The field results were negative for flat-tailed horned lizards and burrowing owls. Approximately ten coyote burrows were observed during the field effort. The burrows were absent of owl sign. The coyote burrows all appeared to be inactive and some appear to have been canid forage holes. No flat-tailed horned lizards were observed during the survey effort and no horned lizard scat was observed. Additionally, the mesquite and salt-cedar trees along the edge of the site were examined for roosting bats and none were observed. One red-tailed hawk nest was observed northeast of the SEPV Dixieland West property on land owned by

5

15

12

Centinela prison. The nest is approximately 270 feet from the northeast corner of SEPV Dixieland West fence line. Two hawk nestlings were observed in the nest and it is assumed they successfully fledged (Exhibit 7).

Botanical surveys were conducted by Dave Silverman on March 10th and 11th, 2015, to detect sensitive plant species, identify all vascular plants, and determine the number of special status plants. The project site was found to have very low plant diversity, with widely spaced shrubs and little evidence of spring annuals. The site lacks potential for most rare plant species to occur, with the exception of a few summer annuals (Table 3). The plants with a potential to occur on site are listed in section 5.2.8. Mediterranean Splitgrass (*Schismus barbatus*) was the only annual observed on natural soils; all other annual species were restricted to the concrete lined irrigation ditch. All plants that could appear in the spring were accounted for, including past skeletons. No follow up botanical surveys are recommended.

Table 7: Plants Detected During Botanical Surveys

Scientific Name	Common Name	Parcel	Description		
		Asco	omycota: Sac Fungi		
		С	OLLEMATACEAE		
Collema	Jelly Lichen	W	Occasional soil lichen in the west parcel.		
Erysiphales	Powdery Mildew	W	Conspicuous light blue growths on Inkweed, resembling flowering shrub, mostly in E SEPV parcel.		
		Basid	omycota: Club Fungi		
	AGARICACEAE				
Podaxis	Desert Puffball	W,C,E	Frequent mushroom after recent spring rains in all parcels.		
		Angiosp	erms: Flowering Plants		
Monocots					
			POACEAE		
Schismus barbatus	Mediterranean Splitgrass	W,C,E	Non-native annual, scattered throughout the area.		
Dicots: Core Eudicots					
	AIZOACEAE				
Sesuvium verrucosum	Western Sea Purslane	E	Native perennial, uncommon in flooded areas of E SEPV parcel.		
<i>AMARANTHACEAE</i>					
Amaranthus palmeri	Palmer Pigweed F				
Tidestromia Ianuginosa	Wooly Tidestromia	E, C	Native annual, not active, skeletons from previous years.		
			ASTERACEAE		
Ambrosia dumosa	Burro-bush	W,C,E	Native, shrub, common throughout the SEPV area, many plants with growth defects in 2015.		

Scientific Name	Common Name	Parcel	Description
Isocoma acradenia	Alkali Goldenbush	W,C,E	Native, shrub, common throughout the SEPV area, many plants with growth defects in 2015.
Lactuca serriola	Prickly Lettuce		Non-native annual, restricted to cement ditch in east SEPV parcel in 2015.
Pluchea sericea	Arrow Weed	E	Native, common along east edge of SEPV near Foxglove Canal.
		ı	BORAGINACEAE
Cryptantha angustifolia	Narrow-leaved Cryptantha	E	Native annual, uncommon, plants restricted to cement ditch in east SEPV parcel in 2015.
Heliotropium curassivicum	Wild Heliotrope	E	Native
Pectocarya heterocarpa	Hairy-leaved Comb-bur	E*	Native annual, restricted to cement ditch in east SEPV parcel in 2015.
Tiquilia palmeri	Palmer's Crinklemat		Native , restricted to cement ditch zone in the central SEPV parcel.
			BRASSICACEAE
Brassica tournefortii	Sahara Mustard	E	Non-native annual, very few plants present for 2015, scattered in the central and central SEPV parcels.
Descurainia sophia	Flixweed	С	Non-native annual, very few plants present for 2015, restricted to the central SEPV parcel.
Lepidium lasopcarpum	Peppergrass	E	Native annual, plants restricted to cement ditch in east SEPV parcel in 2015.
Sisymbrium irio	London Rocket	C,E	Non-native annual, uncommon, very few plants present for 2015, restricted to the central SEPV parcel.
		CI	HENOPODIACEAE
Atriplex canescens var. laciniata	Caleb saltbush	W,C,E	Native , shrub, abundant throughout the SEPV sites. Polypoid hybrid taxa of <i>A. polycarpa</i> and <i>A. canescens</i> .
Atriplex lentiformis	Quailbush	E	Native, tall shrub, uncommon, a few located along the E edge, near Foxglove Canal.
Atriplex polycarpa	Cattle Spinach	W	Native, shrub, uncommon, a few plants occur in the west SEPV parcel.
Chenopodium murale	Nettle-leaf Goosefoot	E	Non-native annual, growing on roadside between SEPV parcels.
Suaeda nigra	Inkweed	W,C,E	Native, shrub, abundant in the central and east SEPV sites, many plants with growth defects in 2015.
		Ε	FUPHORBIACEAE
Chamaesyce polycarpa var. hirtellum	Many-seeded Sandmat	C,E	Native perennial, skeletons, living plants common on nearby roadsides.
			FABACEAE
Prosopis glandulosa var. torreyana	Western Honey Mesquite	W, E	Native tree, common in the west and east SEPV parcels.
Vachellia farnesiana	Sweet Acacia	E	Non-native tree, a cluster of young plants 2m tall, present along the E edge, near Foxglove Canal.
			MALVACEAE
Sphaeralcea coulteri	Coulter Mallow	E	Native annual, only a few plants restricted to cement ditch in east SEPV parcel in 2015.

Scientific Name	Common Name	Parcel	Description		
Sphaeralcea emoryi	Emory Mallow	W,C,E	Native perennial, mostly in C SEPV parcel, gen as past skeletons scattered throughout the area.		
		F	POLYGONACEAE		
Rumex crispus	Curly Dock	E	Non-native perennial, uncommon, skeletons from past flooding in east SEPV parcel.		
		PI	LANTAGINACEAE		
Plantago ovata	Desert Plantain	Е	Native annual, uncommon, plants restricted to cement ditch in east SEPV parcel in 2015.		
RESEDACEAE					
Oligomeris linifolia	Leaved Cambess	E	Native annual, uncommon, plants restricted to cement ditch in east SEPV parcel in 2015.		
			SOLANACEAE		
Lycium brevipes var. brevipes	Desert Thorn	E	Native , shrub, one shrub along E side of east SEPV parcel. A taxon of increasing rareness.		
	TAMERICACEAE				
Tamarix aphylla	Athel	E	Non-native tree, planted as windbreak around SEPV area, a few are waifs in the east SEPV parcel.		
Tamarix ramosissima	Salt Cedar W.C.F. Non-native tree common throughout the SEPV narcels		Non-native tree, common throughout the SEPV parcels.		
		Z	YGOPHYLLACEAE		
Larrea tridentata	Creosote bush	W,C,E	Native, shrub, abundant in through SEPV sites, many plants with growth defects in 2015.		

SEPV Parcels:

 \mathbf{W} = west SEPV parcel, ca. 30 acres, located W of substation, N of S80

C = central SEPV parcel, ca. 4 acres, E of and adjacent to residence W of substation, W of Brown Rd.

E = east SEPV parcel, ca. 20 acres, E of substation, between Brown Rd and Foxglove Canal

Plants in **bold** are native species

Table 8: Field Survey Results and Photo Points

	Burrows and Nest Ob	servations		
WPT	Comment	Species	Status	
1	Burrow	Coyote Inactive		
2	Burrow	Coyote	Inactive	
3	Burrow	Coyote	Inactive	
4	Burrow	Coyote	Inactive	
5	Burrow	Coyote	Inactive	
6	Burrow	Coyote	Inactive	
7	Burrow	Coyote	Inactive	
8	Burrow	Coyote	Inactive	
9	Burrow	Coyote	Inactive	
10	Burrow	Coyote	Inactive	
11	Red-tailed Hawk Nest in Tamarix Tree. Nest is 270 feet NE of SEPV Dixieland West.	Red tailed hawk nest	Active	
	Photo Point	:s		
Photo #	Description	Location		
1	Photo Point Northwest Corner	SEPV Dixieland East		
2	Photo Point Northeast Corner	SEPV Dixieland E	ast	
3	Abandoned Canal	SEPV Dixieland E	ast	
4	Canal	SEPV Dixieland E	ast	
5	Southeast Corner	SEPV Dixieland E	ast	
6	Southwest Corner	SEPV Dixieland E	ast	
7	Northeast Corner	SEPV Dixieland E	ast	
8	Southeast Corner	SEPV Dixieland E	ast	
9	Southwest Corner	SEPV Dixieland East		
10	Southwest Corner	SEPV Dixieland W	/est	
4.4	NW CORNER	SEPV Dixieland West		
11		SEPV Dixieland West		
12	NE CORNER	SEPV DIXIEIANU W	CSC	
	NE CORNER SE CORNER	SEPV Dixieland W		
12	+		/est	

10.2 Recommendations for General Mitigation Measures (MM)

Below are proposed, general mitigation measures resulting from this habitat assessment:

- ➤ MM-01: Nesting Bird Survey: To comply with the Migratory Bird Treaty Act (MBTA), if any ground disturbance is anticipated during the nesting bird season (February-August) the project proponent will initiate a breeding/nesting bird survey to ensure no nesting birds are impacted. If a nesting bird is detected, the area will be avoided and a 50 meter buffer will be installed until the nesting birds have fledged and have been observed to be foraging independently. In the event the red-tail hawk nest is active a 150 meter buffer shall be installed around the hawk nest until the birds are observed to be foraging independently.
- ➤ MM-02: 14 Day Take Avoidance Burrowing Owl Preconstruction Survey: A preconstruction burrowing owl take avoidance survey is recommended to ensure no burrowing owls have moved onto the project site. The project proponent should retain a qualified biologist to conduct a burrowing owl preconstruction survey within the project site and the 150 meter buffer zone to ensure no owls have emigrated onto the site.
- ➤ MM-03: Biological Monitor: During the clearing & grubbing of SEPV Dixieland West it is recommended that a biological monitor is present to relocate and remove any potential sensitive species that may have been unaccounted for during the focused surveys and habitat assessment such as the Colorado Valley woodrat that may have been dormant and unearthed during the removal of the Mesquite trees on site.

10.3 Literature Cited

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10.4 Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take of any sensitive species.

Field Work Performed BY:

Date: <u>06/28/15</u> Signature:

Susan Carlton, Associate Biologist

Botanical Surveys Completed BY:

Date: <u>06/28/15</u> Signature:

Dave Silverman, Associate Biologist

Biological Technical Report Prepared BY:

Date: 06/28/15 Signature:

Ryan Young, Senior Biologist & Principal

Date: <u>06/28/15</u> Signature: ______

Susan Carlton, Associate Biologist

Project Exhibits

Exhibit 1: Regional View

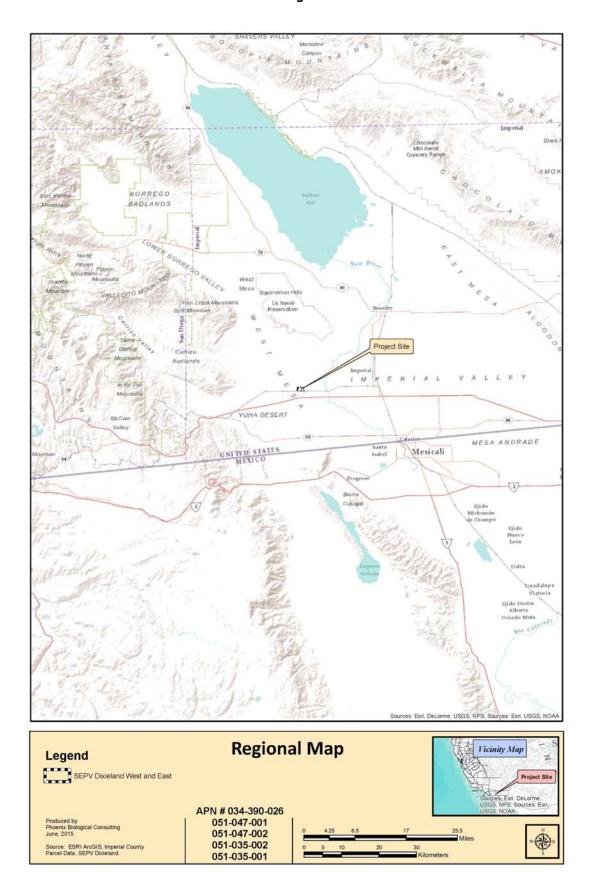
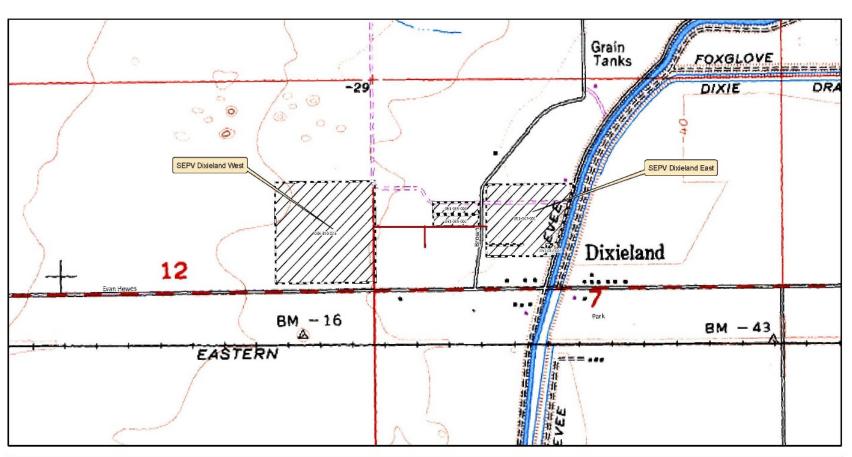


Exhibit 2: Topographic View



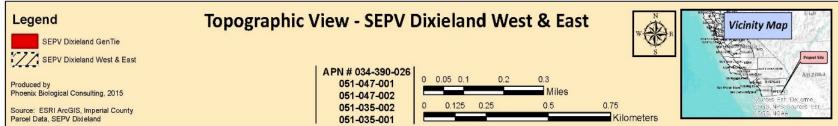


Exhibit 3: CNDDB RESULTS

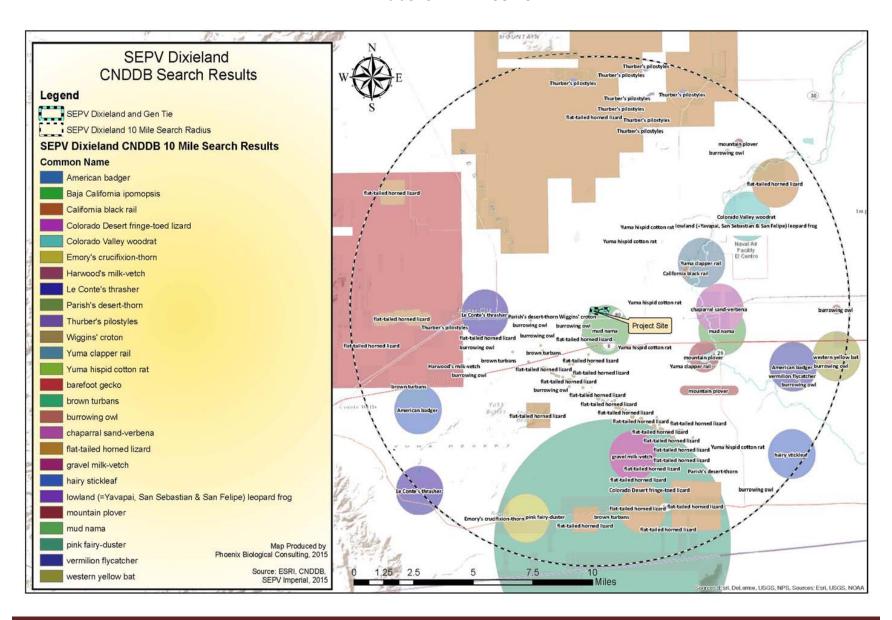


Exhibit 4: Aerial View – Vegetation Classification

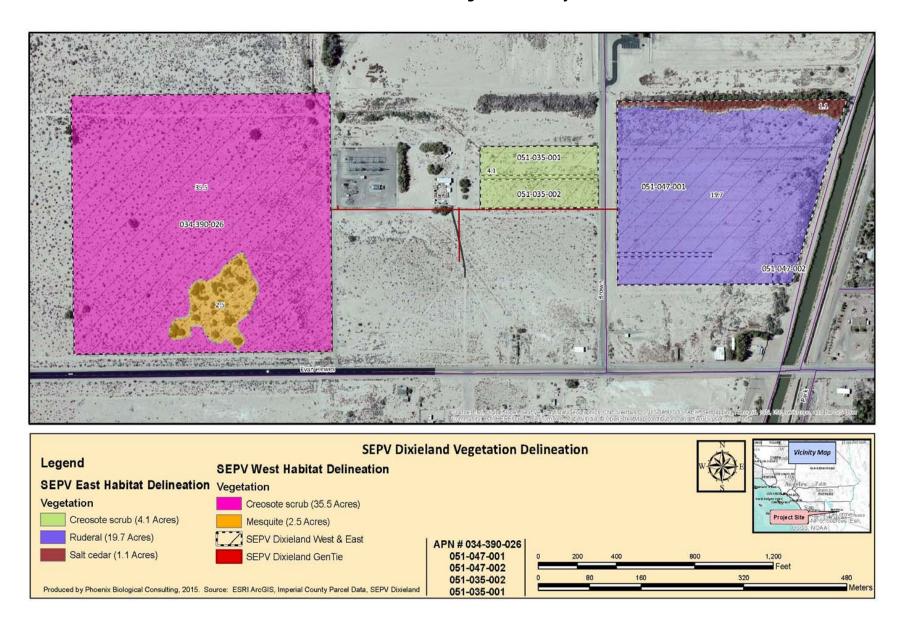


Exhibit 5: Areas of Critical Environmental Concern and Important Bird Areas

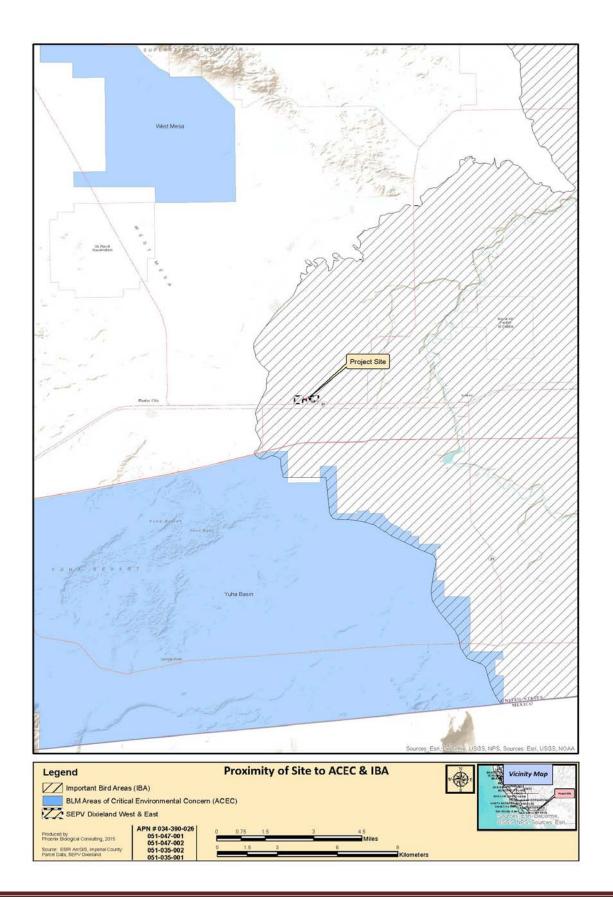


Exhibit 6: Soil Classification



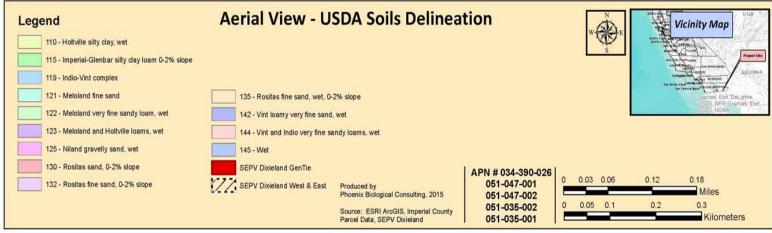
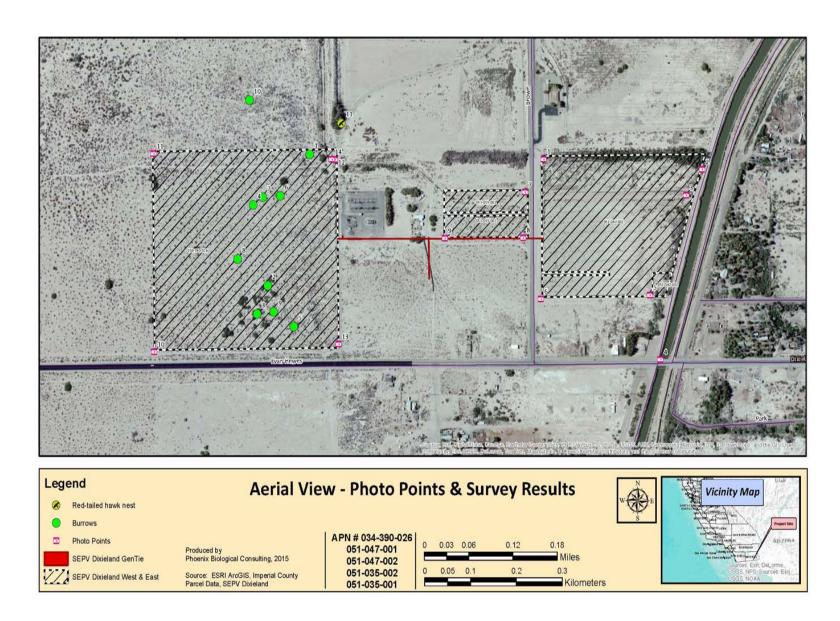


Exhibit 7: Photo Points and Survey Results



Site Photographs

Photo Points: 1-4







Photo Point 1

Photo Point 3

Photo Points: 5-8



Photo Point 6



Photo Point 5



Photo Point 8



Photo Point 7

Photo Points: 9-12



Photo Point 10



Photo Point 9



Photo Point 12

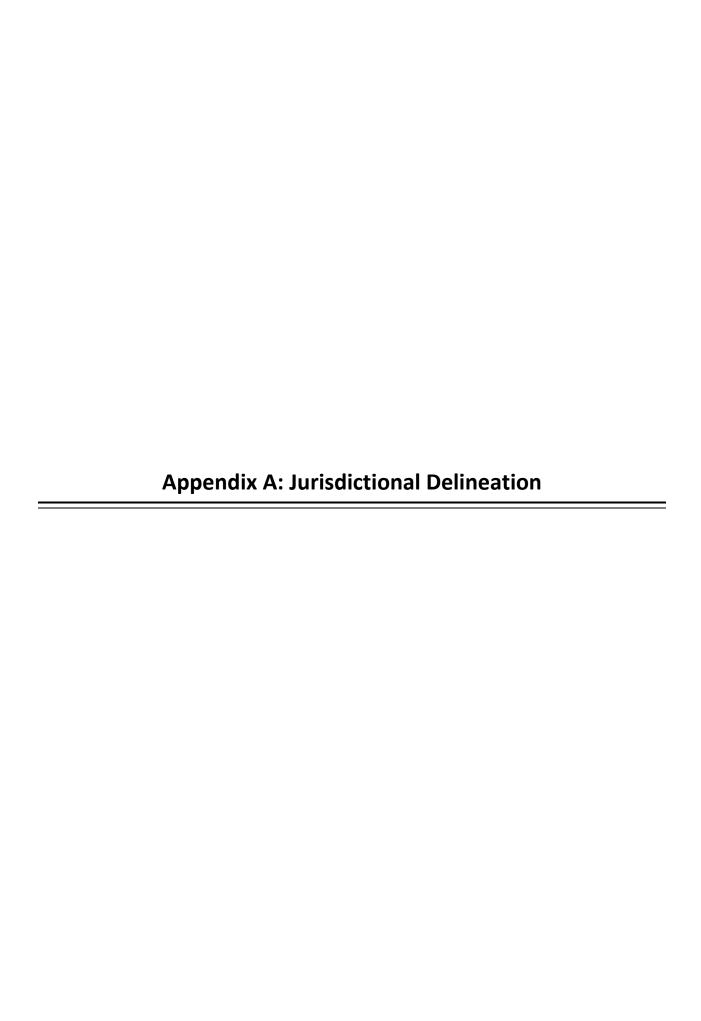


Photo Point 11

Photo Points: 13 and 14







JURISDICTIONAL DELINEATION REPORT

FOR

SEPV Dixieland East

(24 acres, APN#s 051-047-001,-002 and 051-035-001, -002)

Plaster City, 7.5 Minute Quadrangle,

Section 7, Township 16 S, Range 12 E

Imperial County, California

And

SEPV Dixieland West

(36.28 acres, APN# 034-390-026)

Plaster City, 7.5 Minute Quadrangle,

Section 12, Township 16 S, Range 11 E

Imperial County, California

Prepared for

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Prepared by

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June 30, 2015

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
District	Snowline Joint Unified School District
EPA	Environmental Protection Agency
FAC	Facultative
FACU	facultative upland
FACW	facultative wetland
GIS	Geographic Information System
NL	not listed
NWI	National Wetlands Inventory
OBL	Obligate
OHWM	ordinary high water mark
Rapanos	Rapanos v. U.S. and Carabell v. U.S.
RPW	relatively permanent waterway
RWQCB	Regional Water Quality Control Board
SWANCC	Solid Waste Agency of Northern Cook County v. USACE
TNW	traditionally navigable waterway
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture, Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
WSC	Waters of the State of California
WUS	Waters of the United States

1. PROJECT OVERVIEW

1.1 INTRODUCTION

At the request of SEPV Imperial, LLC, Phoenix Biological Consulting (Phoenix) initiated a jurisdictional delineation survey to determine potential impacts to jurisdictional waters within the SEPV Dixieland West & SEPV Dixieland East Solar projects. The projects consists of SEPV Dixieland East (APN#s: 051-047-001, -002 and 051-035-001, -002) and SEPV Dixieland West (APN#: 034-390-026). Each of the projects proposes to build and operate a 2 – 3 megawatt (MWac), solar photovoltaic ("PV") electricity generating facility. The projects are located in Dixieland townsite, an unincorporated area of Imperial County, CA. SEPV Dixieland East is located on the east and west sides of Brown Road, north of West Evan Hewes Highway, and Dixieland West is located at the northwest corner of West Evan Hewes Highway and Carriso Avenue. Representative photographs and maps of the site are included in this report.

This jurisdictional delineation report discusses the type and amount of potentially regulated aquatic resources occurring within the approximately project survey area for the sites. The survey area is also synonymous with the delineation survey area. A jurisdictional delineation for the gen-tie routes is also provided.

This report presents regulatory framework, methods, and results of a delineation of jurisdictional waters, wetlands, and associated riparian habitat potentially impacted by the development of the proposed project. The purpose of performing a formal jurisdictional delineation is to identify the absence or presence (with their types, location, boundaries, and acreages) of potential jurisdictional waters of the U.S. and state (including wetlands) occurring within the project area. Waters of the U.S. are regulated by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), and the Regional Water Quality Control Board (RWQCB) under Section 401 of the CWA. Waters of the state are regulated by the RWQCB under the Porter Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code. The Lahontan RWQCB (Region 6) is the applicable RWQCB for the project site.

As further described in this report, based on the results of the formal field delineation within the project survey area, there are no potential jurisdictional waters of the U.S., and 0.739 acres of potential jurisdictional waters of the state within the SEPV Dixieland West. There are no jurisdictional waters within the SEPV Dixieland East. The ephemeral, first order drainages that are present are located in SEPV West and there is no discernable outlet that would allow for hydrological connectivity downstream. Additionally, there are no jurisdictional waters

present in the gen-tie alignment. These claims will need to be reviewed by ACOE, RWQCB and CDFW to confirm their validity.

1.2 <u>Project Description</u>

SEPV Imperial, LLC proposes the development and operation of two PV electric generation facilities in the Dixieland townsite in unincorporated Imperial County, California. as the SEPV Dixieland East is on 24 acres, and SEPV Dixieland West is a ~36 acre Site on a ~39 acre parcel. The purpose of this projects is to utilize solar resources to generate renewable energy.

The proposed SEPV Dixieland East project intends to generate up to 2 megawatts (MWac) of renewable electrical energy and SEPV Dixieland West intends to generate up to 3 MWac of renewable electrical energy by utilizing solar photovoltaic ("PV") modules, mounted on single axis-sun tracking support structures. Electricity generated by SEPV Dixieland East and SEPV Dixieland West will be interconnected to the Imperial Irrigation District (IID) electrical distribution system at a nearby existing IID 12kV distribution line. The project will consist of access roads, PV modules, single-axis sun tracking support structures, and electronic/electrical equipment to convert electricity from the PV modules from direct current ("DC") electricity to alternating current ("AC") electricity and transfer that electricity to IID's local distribution system. Impacts from the aforementioned project components are estimated to be approximately 9 acres of the 24 acre SEPV Dixieland East project area and 10 acres of the 36 acre SEPV Dixieland West project area; with the remaining acreage being designated for setbacks, IID's easement, access roads, and spacing between array rows.

1.3 <u>Project Location</u>

The project area is located in the western portion of the Sonoran Desert; situated approximately 11 miles west of El Centro and 5 miles east of Plaster City, in the unincorporated community of Dixieland, in Imperial County, California. The site is approximately 6 miles southwest of the El Centro Naval Air Facility and 1.3 miles north of Interstate 8, in the Plaster City quadrangle of the United States Geographical Survey's (USGS) 7.5 minute topographic map series (Exhibits 1). The legal descriptions of the parcels are Section 7, Township 16S, Range 12E, and Section 12, Township 16S, Range 11E, Imperial County, California.

2. ENVIRONMENTALSETTING

2.1 Existing Conditions

The project site is situated in the western Sonoran Desert, in the Colorado River Watershed located in Imperial Valley, California; north of Interstate 8 and west of El Centro. The project site is surrounded by relatively undeveloped, moderately disturbed desert scrubland. Open access BLM lands are adjacent to the west and north sides of SEPV Dixieland West, and Westside Main Canal is located to the east of SEPV Dixieland East. A large area of cultivated agricultural croplands is situated on the east side of Westside Main Canal, approximately 0.3 miles from the eastern boundary of SEPV Dixieland East.

Disturbance levels for the project site are as follows; SEPV Dixieland West is relatively undisturbed, SEPV Dixieland East (central parcel, APN # 051-035-002 and 051-035-001) is moderately disturbed, and SEPV Dixieland East (eastern parcels, APN #s 051-047-001 and -002) is disturbed. Major disturbances within the project vicinity include a historic, inactive canal and the Imperial Irrigation District (IID) substation (located north of the SEPV Gen Tie-in line). The inactive, cracked and broken concrete lined irrigation canal is approximately 4 feet wide, filled with dirt and debris and intersects the northeastern corner of SEPV Dixieland West and traverses across Brown Road extending through the northern portion of SEPV Dixieland East. Other disturbances consist of a dirt road that transects the northern portion of SEPV Dixieland West, an existing transmission line and Right of Way that borders the southern and eastern sides of the SEPV Dixieland West boundary, and two paved roads; Brown Road and Even Hewes Highway. There is also evidence of off-road vehicular travel throughout the project area. Additional disturbances specific to SEPV Dixieland East (eastern parcels) include evidence of old irrigation rows, with inkweed (Suaeda nigra), a berm that divides the parcel, and an area previously used as a cattle corral.

The dominant habitat types within SEPV Dixieland West consists of approximately 35.5 acres of creosote scrub and 2.5 acres of mesquite. The habitat types within SEPV Dixieland East consist of 4.1 acres of creosote scrub, 19.7 acres of ruderal habitat and 1.1 acres of Tamarix thicket. (Table 1 and Exhibit 4). None of the aforementioned habitat communities are considered sensitive.

Table 9: Percentage of Habitat Types within the Project Area

Habitat Type (s)	Location (parcel)	Approx. Acreage	Percentage	
SEPV DIXIELAND WEST				
Creosote bush scrub	SEPV West	35.5	93.4%	
Mesquite	SEPV West	2.5	6.6%	
TOTAL		38	100%	
SEPV DIXIELAND EAST				
Creosote bush scrub	SEPV East	4.1	16.5 %	
Ruderal	SEPV East	19.7	79.1%	
Tamarix thicket	SEPV East	1.1	4.4%	
TOTAL		24.9	100%	

SEPV Dixieland West and SEPV Dixieland East (central parcel) consists predominately of Creosote bush scrub (*Larrea tridentata*). Creosote bush scrub occurs on alluvial fans, bajadas, upland slopes, and minor intermittent washes at elevations between -75 to 1000 meters. Soils of creosote bush scrub are well drained, with open to intermittent vegetation; sometimes containing desert pavement. Some of the common plant species associated with creosote bush scrub are goldenhead (*Acamptopappus spp.*), ragweed or bursage (*Ambrosia dumosa*), and saltbush (*Atriplex canescens*). Within the creosote bush scrub in SEPV Dixieland West, is a patch of western honey mesquite (*Prosopis glandulosa var. torreyana*), which is recognized by the USFWS Wetland Inventory as a nonhydrophyte facultative upland plant that usually occurs in non-wetlands, but may occur in wetlands. Mesquite habitats generally occur on fringes of playa lakes, river terraces, stream banks, floodplains, rarely flooded margins of arroyos and washes, and sand dunes. Alkali goldenbush (*Isocoma acradenia*) is also present on both SEPV Dixieland West and East. Alkali goldenbush is a faculatative upland plant.

SEPV Dixieland East (eastern parcels) is dominated by ruderal habitat, which is composed of non-native herbaceous species that generally colonize areas of sustained disturbance. Plant species associated with ruderal habitats include: tumbleweed (*Salsola tragus*), ripgut (*Bromus diandrus*), red brome (*Bromus madritensis*), inkweed (*Suaeda nigra*), arrowweed (*Pluchea sericea*) and Mediterranean grass (*Schismus spp.*). Ruderal habitat offers limited opportunities for wildlife species due to the lack of native species cover, continued disturbance, and overall habitat degradation. The northern portion of SEPV Dixieland East (eastern parcels) that was previously used as a cattle corral, is dominated by saltbush (*Atriplex canescens*) scrub re-growth habitat. Saltbush scrub habitat occurs in playas, old beach and shores, lake deposits, dissected

alluvial fans, and rolling hills at elevations between -75 and 1500 meters. Soils associated with saltbush scrub are alkaline, sandy or sandy clay loams. The USFWS Wetland Inventory recognizes *Atriplex canescens* as a nonhydrophyte facultative upland plant that usually occurs in non-wetlands, but may occur in wetlands. The northern edge of SEPV Dixieland East (eastern parcels) is composed of Tamarisk (*Tamarix spp.*), which is associated with arroyo margins, lake margins, ditches, washes, rivers, and other watercourses.

2.2 <u>Hydrology</u>

The average precipitation for the area is 1.97 inches per year (Western Regional Climate Center, 2013). Weather data was recorded near Imperial County Airport, approximately 11 miles east of the project site. The project site is situated within the Salt Creek Slough Hydrologic unit (HU; Exhibit 4). There are no observable outlets associated with the drainages on SEPV Dixieland West. The small, ephemeral drainages on site appear to accumulate along the edge of Carriso Avenue which likely due to the lack of changes in elevation in the vicinity. Monsoon activity is a common event in the summer months in the Sonoran Desert. It is likely that these drainages flow only during summer monsoon rains and experience surface flow for less than a couple days per year. The climate in this region is characterized by an arid environment with low humidity and rainfall, strong fluctuations in daily temperatures, hot summers and cold winters, and generally clear skies.

2.3 <u>Vegetation</u>

The vegetation types on site include Saltbush scrub (*Atriplex canescens*), creosote scrub (*Larrea tridentata*), bursage (*Ambrosia dumosa*), Alkali goldenbush (*Isocoma acradenia*), western honey mesquite (*Prosopis glandulosa var. torreyana*), and salt cedar (*Tamarix sp.*) (Exhibit 8). Vegetation nomenclature follows The Jepson Manual, Vascular Plants of California, 2nd Edition (Baldwin, 2012). When The Jepson Manual does not list a common name, common name nomenclature follows the United States Department of Agriculture, Natural Resources Conservation Service (USDA) Plants Database (USDA, 2013a).

2.4 <u>Soils</u>

The majority of the soils on site are sandy or loamy-clay. Due to the historic agriculture and livestock practices within SEPV Dixieland East the soils and vegetation have been altered and are predominantly disturbed (ruderal). The USDA online Web Soil Survey was consulted to determine the soil types mapped as occurring within the study area (Exhibit 7). The study area contains five soil types: (1) **Indio-Vint Complex** with 0-2% slopes, consisting of alluvium derived

from mixed and/or eolian deposits derived from mixed. It is considered prime farmland, if irrigated. Soil texture includes loam to stratified loamy very fine sand to silt loam (Indio) and loamy fine sand (Vint) (2) **Meloland find sand** with 0-2% slopes, consisting of alluvium derived from mixed and/or eolian deposits derived from mixed. It is considered farmland of statewide importance. Profile consists of fine sand (0-12 in) to stratified loamy fine sand to silt loam (12-26 in) to clay (26 to 71 in) (3) **Meloland very fine sandy loam ,wet** with 0-2% slopes consisting of alluvium derived from mixed and/or eolian deposits derived from mixed. It is considered prime farmland if irrigated and drained. Profile consists of very fine sandy loam (0-12 in), stratified loamy sand to silt loam (12-26 in) and clay (26-71 in) (4) **Rositas sand** with 0-2% slopes consisting of alluvium derived from mixed, farmland of statewide important. Profile consists of sand (0-27 in) and sand (27-60 in). (5) **Rositas fine sand** with 0-2% slopes, consisting of alluvium derived from mixed and/or eolian deposits derived from mixed, very slightly saline to slightly saline, farmland of statewide importance. Typical profile consists of fine sand (0-9 in) and sand (9-60 in) (USDA, 2015).

SOIL TYPES PRESENT WITHIN THE TWO SITES

SEPV DIXIELAND WEST

- Indio-Vint Complex (2.5%)
- Meloland Fine Sand (10%)
- Rositas Sand (85%)
- Rositas Fine Sand (2.5%)

SEPV DIXIELAND EAST

- Meloland Very Fine Sand (10%)
- Meloland Fine Sand (90%)

2.5 National Wetlands Inventory

The United States Fish and Wildlife Service (USFWS) is the principal federal agency that provides information to the public on the extent and status of the nation's wetlands. The USFWS has developed a series of maps, known as the National Wetlands Inventory (NWI) to show wetlands, riverine (drainages) and deepwater habitat. This geospatial information is used by federal, state, and local agencies, academic institutions, and private industry for management, research, policy development, education, and planning activities. The NWI program was neither designed nor intended to produce legal or regulatory products;

therefore, wetlands identified by the NWI program are not the same as wetlands defined by the USACE.

The NWI Mapper (USFWS, 2015) was accessed online to review mapped wetlands within the project study area. The results of the database are presented in the attached Exhibits. There are no known wetlands or drainages associated with the project site (Exhibit 5).

3. **REGULATORYFRAMEWORK**

3.1 U.S. Army Corps of Engineers (USACE)

The USACE regulates the discharge of dredged or fill material in waters of the United States (WUS) pursuant to Section 404 of the CWA.

3.1.1 Waters of the U.S.

CWA regulations (33 CFR 328.3(a)) define WUS as follows:

- 1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- 2. All interstate waters including interstate wetlands;
- 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) which are used or could be used for industrial purpose by industries in interstate commerce;
- 4. All impoundments of waters otherwise defined as WUS under the definition;
- 5. Tributaries of WUS;
- 6. The territorial seas;
- 7. Wetlands adjacent to WUS (other than waters that are themselves wetlands).

3.1.2 <u>Wetlands and Other Special Aquatic Sites</u>

Wetlands are defined at 33 CFR 328.3(b) as "those 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."

Special aquatic sites are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region. Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and riffle and pool complexes. They are defined in 40 CFR 230 Subpart E.

Federally regulated wetlands are identified based on the Wetlands Delineation Manual (USACE, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE, 2008b). Three criteria must be fulfilled in order to classify an area as a wetland under the jurisdiction of the USACE: 1) a predominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) the presence of wetland hydrology. Details of these criteria are described below:

- Hydrophytic Vegetation. The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (USACE, 2008b). An OBL indicator status refers to plants that almost always are a hydrophyte, rarely in uplands. A FACW indicator status refers to plants that usually are a hydrophyte but are occasionally found in uplands. A FAC indicator status refers to plants that commonly occur as either a hydrophyte or non-hydrophyte. Other wetland indicator statuses include facultative upland (FACU) which includes plants that occasionally are a hydrophyte but usually occur in uplands, upland (UPL) which refers to plants that rarely are a hydrophyte and are almost always in uplands, and plants that are not listed (NL) for plants that do not occur on the National Wetlands Plant List. The wetland indicator status used for this report follows the National Wetland Plant List, Arid West Region (Lichvar and Kartesz, 2009).
- Hydric Soils. The hydric soil criterion is satisfied at a location if soils in the area can be inferred or observed to have a high groundwater table, if there is evidence of prolonged soil saturation, or if there are any indicators suggesting a long-term

- reducing environment in the upper part of the soil profile. Reducing conditions are most easily assessed using soil color. Soil colors were evaluated using the Munsell Soil Color Charts (Gretag/Macbeth, 2000).
- Wetland Hydrology. The wetland hydrology criterion is satisfied at a location based upon conclusions inferred from field observations that indicate an area has a high probability of being inundated or saturated (flooded, ponded, or tidally influenced) long enough during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE, 1987 and 2008b).

Areas meeting all three parameters would be designated as USACE wetlands. There were no wetlands identified in the study area during this investigation based of the absence of hydric soil indicators and lack of hydrophytic vegetation.

3.1.3 Non-Wetlands and OHWM

The USACE delineates non-wetland waters in the Arid West Region by identifying the ordinary high water mark (OHWM) in ephemeral and intermittent channels (USACE, 2008a). The OHWM is defined in 33 CFR 328.3(e) as:

"...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impresses 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."

OHWM indicators are used to delineate the lateral jurisdictional extent of potential non-wetland waters of the U.S. Lateral jurisdictional limits were established for all drainage features/channels occurring within the project survey area in conjunction with field verification for a determination of the OHWM, which provides an acceptable estimate for the lateral jurisdictional limits. The OHWM of the drainage features/channels are identified on the basis of the following:

- Water marks within their respective channel banks established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the banks;
- Scour and shelving, local deposition, distinct and indistinct terraces, and changes in the character of soil;
- The presence of developed longitudinal bars within channel margins;

- Type, abundance, and relative age of vegetation and/or destruction of terrestrial vegetation, exposed roots, and the presence and absence of litter and debris within the ephemeral channels;
- Ephemeral channel configuration, estimated streamflow behavior, and other subtle geomorphic evidence indicative of regular flow levels;
- Consideration of precipitation patterns and lack of consistent flow;
- Geomorphic OHWM indicators (e.g., surface relief, cobblebars, benches, crested ripples, particle size distribution, mudcracks, gravel sheets, desert pavement, and dunes); and
- Pattern and location of relictual channels and discontinuous drainage features.

3.1.4 Supreme Court Decisions

3.1.4.1 Solid Waste Agency of Northern Cook County

On January 9, 2001, the Supreme Court of the United States issued a decision on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* with respect to whether the USACE could assert jurisdiction over isolated waters. The Solid Waste Agency of North Cook County (SWANCC) ruling stated that the USACE does not have jurisdiction over "non-navigable, isolated, intrastate" waters.

3.1.4.2 Rapanos/Carabell

In the Supreme Court cases of *Rapanos v. United States* and *Carabell v. United States* (herein referred to as Rapanos), the court attempted to clarify the extent of USACE jurisdiction under the CWA. The nine Supreme Court justices issued five separate opinions (one plurality opinion, two concurring opinions, and two dissenting opinions) with no single opinion commanding a majority of the Court. In light of the Rapanos decision, the USACE will assert jurisdiction over a traditional navigable waterway (TNW), wetlands adjacent to TNWs, non-navigable tributaries of TNWs that are a relatively permanent waterway (RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically at least three months per year) and wetlands that directly abut such tributaries. The USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not RPWs, and wetlands adjacent to but that do not directly abut a non-navigable RPW.

Flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary indicate whether they significantly affect the chemical, physical and biological integrity of downstream TNWs. Analysis of potentially jurisdictional streams includes consideration of hydrologic and ecologic factors. The consideration of hydrological factors includes volume, duration, and frequency of flow, proximity to traditional navigable waters, size of watershed, average annual rainfall, and average annual winter snow pack. The consideration of ecological factors also includes the ability for tributaries to carry pollutants and flood waters to a TNW, the ability of a tributary to provide aquatic habitat that supports a TNW, the ability of wetlands to trap and filter pollutants or store flood waters, and maintenance of water quality.

3.2 <u>Regional Water Quality Control Board</u>

The RWQCB regulates activities pursuant to Section 401(a)(1) of the CWA. Section 401 of the CWA specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters.

Through the Porter Cologne Water Quality Control Act, the RWQCB asserts jurisdiction over Waters of the State of California (WSC) which is generally the same as WUS, but may also include isolated waterbodies. The Porter Cologne Act defines WSC as "surface water or ground water, including saline waters, within the boundaries of the state".

3.3 California Department of Fish and Wildlife

The State of California regulates water resources under Section 1600-1616 of the California Fish and Game Code. Section 1602 states:

"An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumble, flaked, or ground pavement where it may pass into any river, stream, or lake."

In practice, the CDFW generally interprets their jurisdictional limits to include the following:

1. At minimum, intermittent and seasonal flow through a bed or channel with banks

- and that also supports fish or other aquatic life.
- 2. A watercourse having a surface or subsurface flow regime that supports or that has supported riparian vegetation.
- 3. Hydrogeomorphically distinct top-of-embankment to top-of-embankment limits.
- 4. Outer ground cover and canopy extents of typically riparian associated vegetation species that would be sustained by surface and/or subsurface waters of the watercourse.

For desert aquatic features, CDFW provides specific guidance concerning their regulatory administration in California Code of Regulations Title 14 Section 720 (Designation of Waters of Department Interest), which states:

For the purpose of implementing Sections 1601 and 1603 of the Fish and Game Code which requires submission to the department of general plans sufficient to indicate the nature of a project for construction by or on behalf of any person, governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed of any river, stream or lake designated by the department, or will use material from the streambeds designated by the department, all rivers, streams, lakes, and streambeds in the State of California, including all rivers, streams and streambeds which may have intermittent flows of water, are hereby designated for such purpose (italics added).

4. METHODS

Prior to conducting delineation fieldwork, the following literature and materials were reviewed:

- Aerial photographs (from 1992 to 2015) of the project site at a scale of 1:480 with 1-foot elevation contours to determine the potential locations of USACE, RWQCB, and CDFW jurisdictional waters or wetlands;
- USGS topographic map (Exhibit 2) to determine the presence of any "blue line" drainages or other mapped water features;
- USFWS NWI maps to identify areas mapped as wetland features; and
- USDA soil mapping data.

Field surveys of the study area were conducted by Phoenix biologist Ryan Young on April 17, 2015. Mr. Young has conducted over twenty-four delineations and has completed the ACOE Wetland Delineation Training in 2004 through Richard Chinn Environmental Training, Inc. Boulder, CO. The field effort consisted of walking the study area and identifying potentially jurisdictional water features. Visual observations of vegetation types and changes in hydrology and soil types were used to locate areas for evaluation. Examples of the jurisdictional indicators are presented in the photo points in Appendix A. Drainages were recorded using a Trimble GeoExplorer 6000 series sub-meter accuracy GPS device. Data was later post-processed for increased accuracy. Survey forms were completed and are available upon request. Weather conditions during delineation fieldwork were conducive for surveying with clear skies and moderate wind (5-8 MPH).

USACE regulated WUS, including wetlands, and RWQCB WSC were delineated according to the methods outlined in and 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). The extent of WUS was determined based on indicators of an OHWM. The OHWM width was measured at points wherever clear changes in width occurred.

Evaluation of CDFW jurisdiction followed guidance in the Fish and Game Code and A Field Guide to Lake and Streambed Alteration Agreements (California Department of Fish and Game, 1994). Specifically, CDFW jurisdiction was delineated by measuring the outer width and length boundaries of on-site streambeds which consisted of either the top of bank measurement (bankfull width) or the extent of associated riparian vegetation.

To determine jurisdictional boundaries, the surveyor walked the length of the drainage within the project area and recorded the centerline with a Trimble GeoXH global positioning system. The width of the drainage was determined by the OHWM and bankfull width measurements at locations where transitions were apparent. Other data recorded included bank height and morphology, substrate type, and all vegetation within the streambed and riparian vegetation adjacent to the streambed. Upon completion of fieldwork, all data collected in the field were incorporated into a Geographic Information System (GIS) along with basemap data. The GIS was then used to quantify the extent of jurisdictional waters.

5. RESULTS AND FINDINGS

Five (5) ephemeral, intermittent washes totaling 0.739 acres (1,520 linear feet) were identified within the SEPV Dixieland West site. These areas are identified as S1, S2, S3, S4 & S5 in the Jurisdictional Delineation Map in Exhibit 3. There are no jurisdictional drainages present in the gen-tie nor within SEPV Dixieland East. Photo point locations and representative photographs taken during the field delineation are included in Appendix A. The size and location of each ephemeral wash is further described as follows:

SEPV Dixieland West Drainages

<u>S1</u> – (131 Linear Feet, 0.09 Acres) This unmapped, unnamed ephemeral wash is located along the eastern boundary of SEPV Dixieland West. It flows from west to east with no discernable outlet. The topography is level. The soils and topography suggest that, when inundated with water, it is stagnant. This drainage has a high clay content and evidence of cracked clay soils were observed and documented (Appendix A). Changes in soil texture and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush (*Atriplex canescens*), Creosote scrub (*Larrea tridentata*) and Alkali goldenbush (*Isocoma acradenia*).

<u>S2 (S2.1, S2.2, S2.3)</u> – (348 Linear Feet, 0.096 Acres) This unmapped, unnamed ephemeral wash is located along the northeastern quadrant of SEPV Dixieland West. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded along the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed and documented along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage and photo documented in Appendix A. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush (*Atriplex canescens*), Creosote scrub (*Larrea tridentata*) and Alkali goldenbush (*Isocoma acradenia*).

 $\underline{S3}$ – (154 Linear Feet, 0.067 Acres) This unmapped, unnamed ephemeral wash is located along the central portion of SEPV Dixieland West. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect and it is the drop in elevation that has created this feature. Mostly likely the drainage is active during monsoon events and is fed by sheet flow. The soils are sandy throughout the drainage. Litter deposition, scour marks and shelving were observed along the drainage and photo documented in Appendix A. Changes in

soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation include Creosote scrub (*Larrea tridentata*).

<u>S4</u> – (430 Linear Feet, 0.229 Acres) This unmapped, unnamed ephemeral wash is located along the southeast quadrant of SEPV Dixieland West. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded near the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed and documented along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage and photo documented in Appendix A. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush (*Atriplex canescens*), Creosote scrub (*Larrea tridentata*) and Alkali goldenbush (*Isocoma acradenia*).

<u>S5 (S5.1 & S5.2)</u> – (457 Linear Feet, 0.257 Acres) This unmapped, unnamed ephemeral wash is located along the southern boundary of SEPV Dixieland West. It flows from west to east with no discernable outlet. The topography has a slight easterly aspect. The soils are sandy along the western portion and become silty-clay on the eastern end of the drainage where the sediments settle out and the water becomes ponded near the eastern edge of the parcel. This drainage has a high clay content and evidence of cracked clay soils were observed and documented along the eastern end. Litter deposition, sandy soils and scour marks were observed along the western end of the drainage and photo documented in Appendix A. Changes in soil texture, litter deposition, scour marks along the edge of the small embankments and vegetation types were the defining characteristics of the OHWM. Dominant vegetation includes saltbush (*Atriplex canescens*), Creosote scrub (*Larrea tridentata*) and Alkali goldenbush (*Isocoma acradenia*).

Table 2. Summary of Ephemeral Washes				
Water ID	Permanent Impact Area (acres)	Permanent Impact Length (feet)	Latitude / Longitude	Cowardin Classification
Potential Impacts To SEPV Dixieland West				
S1	0.09	131	32.79396/-115.77910	R4SBJ
S2.1	0.071	186	32.79425/-115.77957	R4SBJ
S2.2	0.001	67	32.79418/-115.78012	R4SBJ
S2.3	0.024	95	32.79426/-115.78052	R4SBJ
S3	0.067	154	32.79328/-115.78186	R4SBJ
S4	0.229	430	32.79278/-115.78019	R4SBJ
S5.1	0.18	354	32.79188/-115.77989	R4SBJ
S5.2	0.077	103	32.79188/-115.78152	R4SBJ
TOTAL	0.739	1,520	-	-

R4SBJ – Riverine, Intermittent, Streambed, Intermittently Flooded, based on Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et. al., 1979).

5.2 Federal Jurisdiction

Based on the results of the delineation and federal guidance outlined herein, this report was prepared to provide support to USACE in making a formal determination of all waters delineated within the survey area that are determined to be isolated waters, lacking a clear nexus with downstream watercourses, and thus not regulated by the USACE. The basis for this finding is as follows:

- All ephemeral washes identified in the field survey, and described above, flow for less than three (3) months per year, and would therefore be classified as non-RPW by the USACE;
- These ephemeral washes do not have a downstream outlet
- As non-RPWs, these ephemeral washes have no downstream connectivity to a TNW, and no nexus to interstate or foreign commerce;
- As non-RPWs, these ephemeral washes are not an (a)(3) water, and do not meet any of the i-iii criteria (no recreation or interstate commerce related to fisheries or industry).

The USACE, in combination with the Environmental Protection Agency (EPA), when necessary, reserves the ultimate authority in making the final jurisdictional determination of WUS. This report has been prepared to provide the necessary information to assist the USACE with that determination. An approved Jurisdictional Determination could be requested of the USACE to provide an analysis if waters of the US and/or wetlands are present on the site.

5.3 State Jurisdiction

As described above, the extent and distribution of the collective area of potential jurisdictional waters of the state is 0.739 acres (1,520 linear feet) for SEPV Dixieland West. These areas are identified as S1, S2, S3, S4 & S5 occurring within the project area.

The ordinary high water mark (OHWM) is a defining element used to identify the lateral limits of non-wetland waters (Lichvar R.W. 2008). OWHM indicators include a clear natural scour line impressed on the bank, recent bank erosion, changes in soil composition, destruction of native terrestrial vegetation and the presence of litter and debris are the most commonly used OHWM indicators. Ephemeral washes with OHWM and hydrogeomorphically distinct top-of-embankment to top-of-embankment limits are likely to be considered WSC by the RWQCB under the Porter Cologne Water Quality Control Act and by CDFW under Section 1602 of the California Fish and Game Code. Fish and Game Code section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. RWQCB and CDFW reserves the ultimate authority in making the final jurisdictional determination.

CERTIFICATION

This concludes the jurisdictional delineation for the SEPV Dixieland West & East project located in Imperial County.

Certification: I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project.

Field work conduc	ted by	/ :
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Date: <u>June 30, 2015</u> Signature:

Ryan Young, Senior Biologist & Principal

Report Prepared by:

Date: <u>June 30, 2015</u> Signature:

Ryan Young, Senior Biologist & Principal

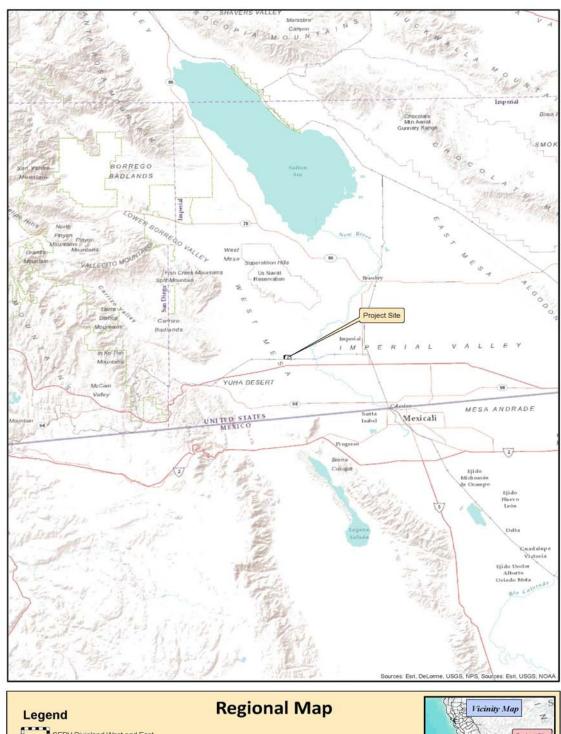
10.4.1 6.0 REFERENCES

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EXHIBIT 1 - REGIONAL LOCATION MAP



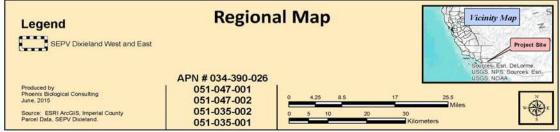
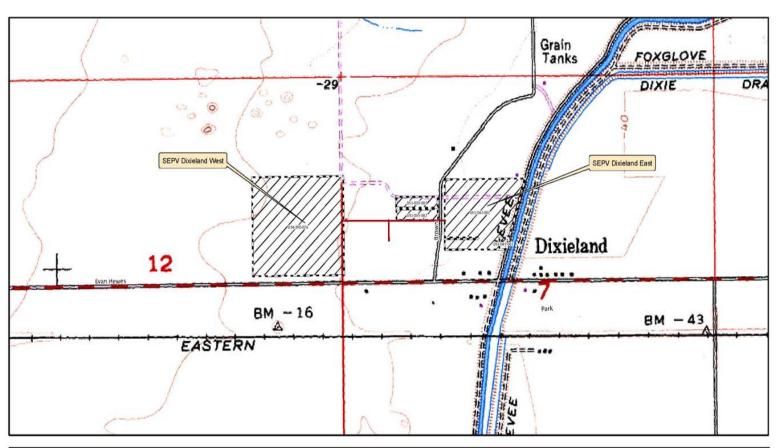


EXHIBIT 2 - TOPOGRAPHICAL MAP



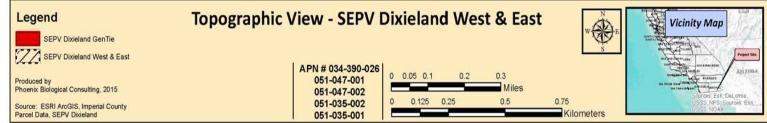
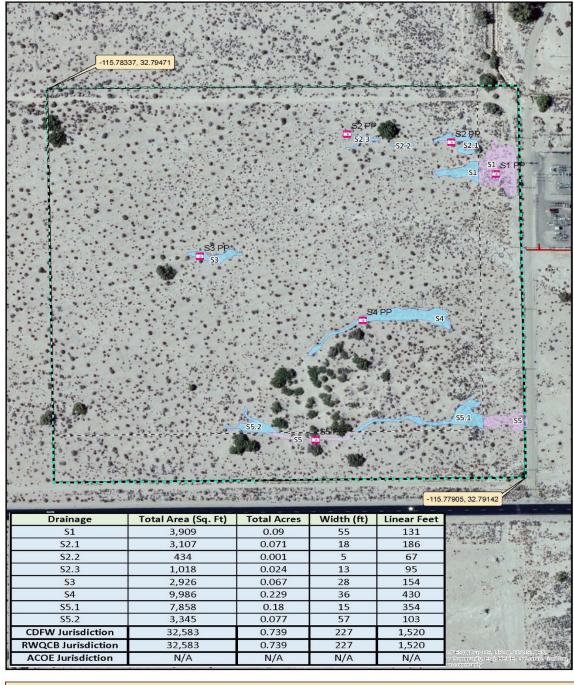


EXHIBIT 3 – JURISDICTION DELINEATION RESULTS & PLAN VIEW



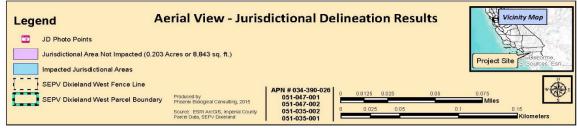
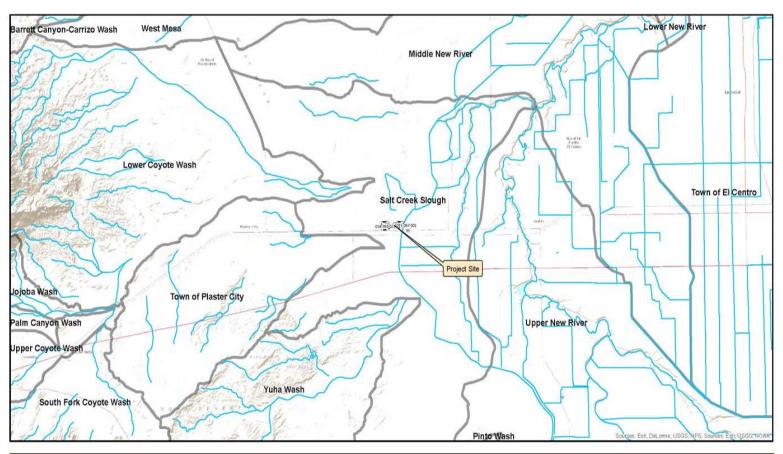


EXHIBIT 4 - HYDROLOGIC UNITS AND DRAINAGE OVERVIEW



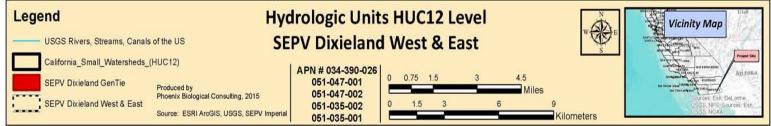
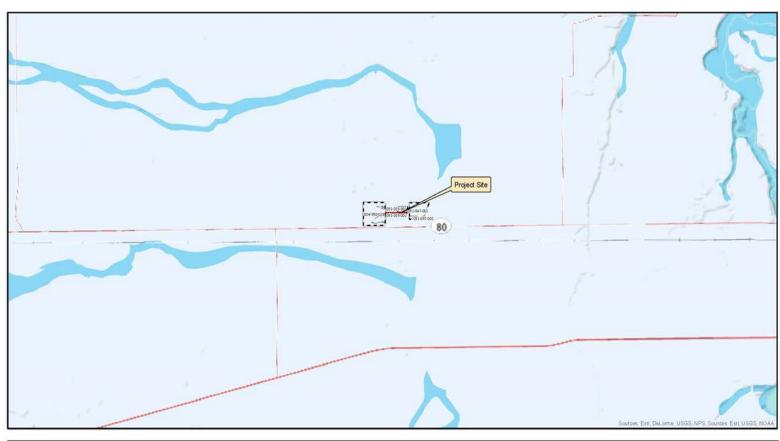


EXHIBIT 5 - 100 YEAR FEMA FLOODPLAIN FOR SEPV DIXIELAND



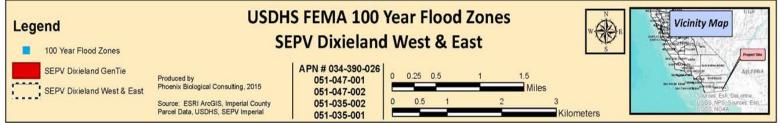
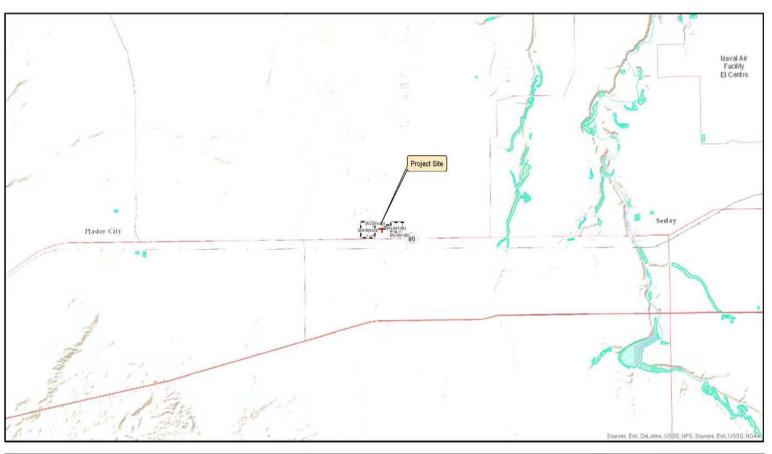


EXHIBIT 6 - USFWS NATIONAL WETLAND INVENTORY



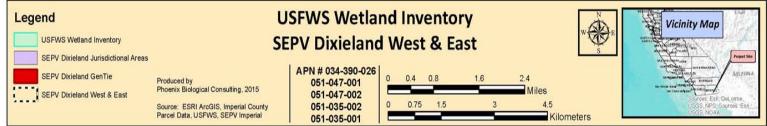


EXHIBIT 7 - USDA SOIL SURVEY DATA FOR SEPV DIXIELAND



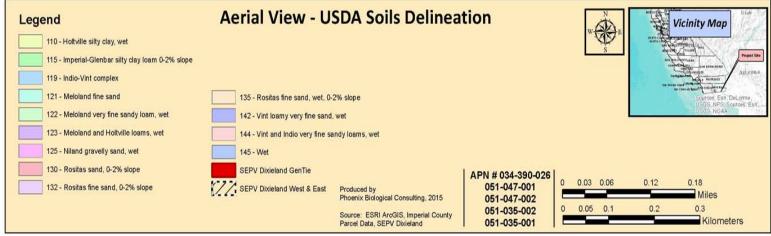
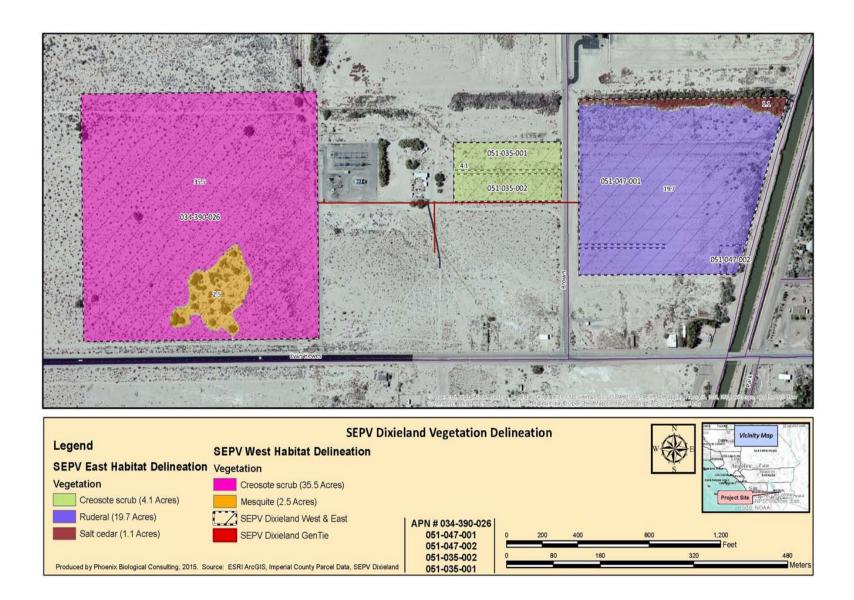


EXHIBIT 8 - VEGETATION CLASSIFICATION FOR SEPV DIXIELAND



APPENDIX A - SITE PHOTOGRAPHS



Photo Point S1



Photo Point S2.1



Photo Point S2.2



Photo Point S3



Photo Point S4



Photo Point S5

CULTURAL RESOURCES ASSESSMENT AND

ARCHAEOLOGICAL TEST EXCAVATIONS

SEPV Imperial LLC Solar Project Sites (SEPV Dixieland East and SEPV Dixieland West)

Imperial County, California

Prepared for:

Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Boulevard, Suite 414 Los Angeles, California 90049

Prepared by:

David Brunzell, M.A., RPA BCR Consulting LLC 1420 Guadalajara Place Claremont, California 91711

Project No. SEP1501

National Archaeological Data Base (NADB) Information:

Type of Study: Intensive Survey
Resources Recorded: P-13-9539, 9540, 9589, 13122, 13123, 13124, 13125, SEP1501-P-1
Keywords: Prehistoric Lithic Isolates, Lithic Scatter, Ceramic
USGS Quadrangle: 7.5-minute Plaster City, California (1979)



MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to SEPV Imperial LLC to complete a Cultural Resources Assessment and Archaeological Test Excavations of the proposed SEPV Imperial LLC Solar Project (project) in the unincorporated community of Plaster City, Imperial County, California. The project occupies two contiguous sites on approximately 76 acres (cumulatively), north of the West Evan Hewes Highway. The two project sites are known as SEPV Dixieland East and SEPV Dixieland West, which are linked by a gen-tie corridor. A cultural resources records search, pedestrian field survey, archaeological test excavations, Native American consultation, and vertebrate paleontological resources overview have been completed for the project sites pursuant to the California Environmental Quality Act (CEQA).

The records search revealed that 20 previous cultural resource studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. Four of the previous studies have assessed portions of the project sites, and seven cultural resources have been previously recorded within the project sites' boundaries. All of the previously recorded resources within the project sites' boundaries were contained within SEPV Dixieland West. These resources are summarized below.

- P-13-9539: two isolated prehistoric lithic flakes;
- P-13-9540: one isolated prehistoric lithic flake;
- P-13-9589: two isolated pottery sherds:
- P-13-13122: one isolated prehistoric lithic flake;
- P-13-13123: one isolated pottery sherd;
- P-13-13124: one isolated prehistoric lithic flake;
- P-13-13125: prehistoric lithic scatter.

During the field survey BCR Consulting updated documentation for each of the seven cultural resources yielded by the records search, and identified one additional cultural resource, all within SEPV Dixieland West. No cultural resources were discovered within SEPV Dixieland East. The additional (previously unrecorded) resource is a prehistoric artifact scatter that has been temporarily designated SEP1501-P-1. The prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) from the records search were not reidentified during the current study. Since isolated artifacts have limited data potential, none of these is considered a "historical resource" under CEQA and they do not warrant further consideration. BCR Consulting did re-identify the prehistoric lithic scatter designated P-13-13125. This site appears to be a secondary deposit and as such does not retain any integrity. Lacking integrity, P-13-13125 is not recommended a "historical resource" under CEQA. The resource identified as SEP1501-P-1 was initially considered potentially eligible for listing in the California Register of Historical Resources (California Register; i.e. potentially a "historical resource" under CEQA) due to its potential significance. Preservation in place is the preferred manner of treatment for archaeological/historical resources. As preservation for this resource was not considered feasible, an archaeological testing program was recommended to determine whether the site contained important information potential. The recommended testing program included a sample surface collection, mapping of all artifacts, and shovel test pit excavation. This work was performed to determine the presence and significance of buried cultural resources. The artifacts recovered were not found to be associated with any intact archaeological features or soil changes, and no datable materials (including bone, suitable carbon samples, obsidian, and diagnostic projectile points) were noted during the current study.

Based on the above results, BCR Consulting recommends that the items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program, are not "unique archaeological resources" or "historical resources" under CEQA. While the testing program has indicated that the soils tested do not contain significant buried deposits, this study has only tested a percentage of the subsurface area. Also, while all of the recorded resources were located within SEPV Dixieland West project site boundaries, both SEPV Dixieland East and SEPV Dixieland West are considered sensitive for buried cultural resources due to the high number of resources recorded in the vicinity. As a result, BCR Consulting recommends that an archaeological monitor be present during all proposed ground-disturbing activities associated with both the SEPV Dixieland East and the SEPV Dixieland West project sites. All monitoring should take place under the direct supervision of a cultural resource professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (project archaeologist). Prior to commencement of project related ground disturbing activities within either the SEPV Dixieland East or the SEPV Dixieland West project sites, the project archaeologist should attend a preconstruction meeting with construction personnel. During this meeting, the project archaeologist would inform construction personnel that archaeological materials may be encountered, and provide information on the role of archaeological monitors. If any prehistoric or historic cultural resources are uncovered during any ground-disturbing activities within the project sites, the monitor should be empowered to temporarily halt or redirect construction work in the vicinity of the find until it can by evaluated by the project archaeologist. Impacts to finds determined to represent significant cultural resources will be mitigated through data recovery.

Department of Park and Recreation (DPR) 523 forms have been used to document the cultural resources located within the project sites' boundaries. These are included in Appendix A, along with site photographs. The Paleontological Resources Overview is included as Appendix B, and Native American communications are included as Appendix C.

If human remains are encountered during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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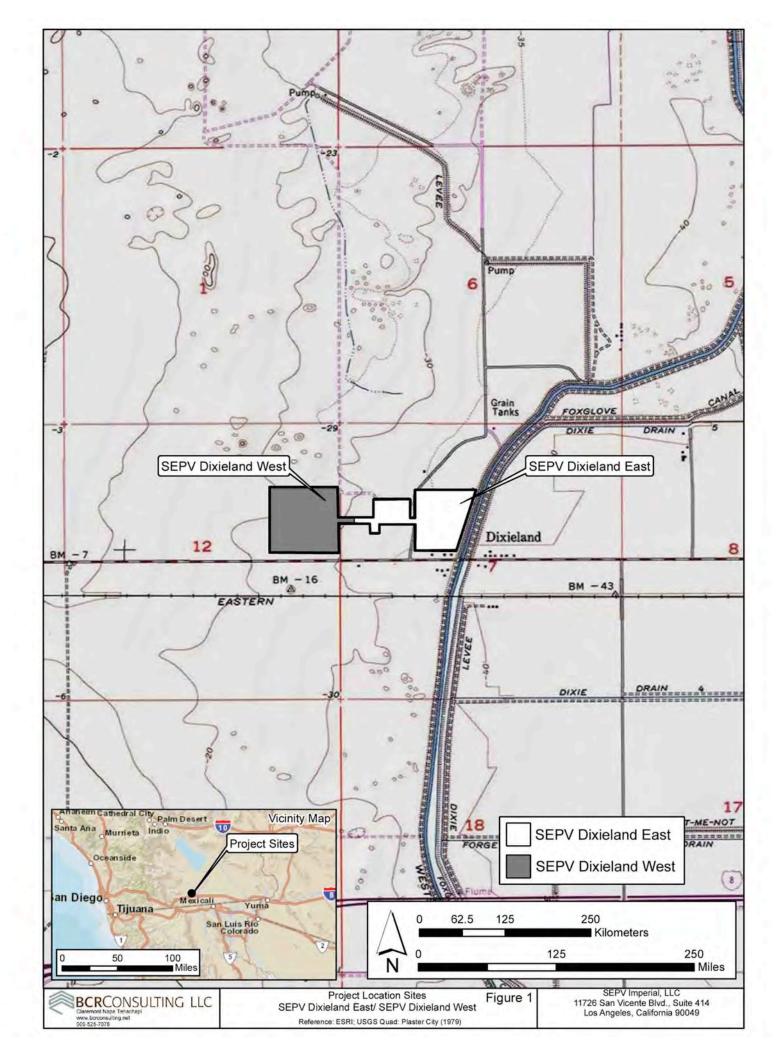
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INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to SEPV Imperial LLC to complete a Cultural Resources Assessment and Archaeological Test Excavations of the proposed SEPV Imperial LLC Solar Project (project) in the unincorporated community of Plaster City, Imperial County, California. A cultural resources records search, pedestrian field survey, archaeological test excavations, Native American consultation, and paleontological resources overview have been completed for the project pursuant to the California Environmental Quality Act (CEQA). The project occupies two contiguous sites on approximately 76 acres (cumulatively), north of the West Evan Hewes Highway. The two project sites are known as SEPV Dixieland East and SEPV Dixieland West, which are linked by a gen-tie corridor. The project sites are mostly surrounded by vacant desert although an electric substation is located between the two, north of the gen-tie corridor, and the Westside Main Canal is located along the eastern boundary of SEPV Dixieland East. Both project sites are vacant, however the Dixieland East portion has been artificially terraced for cultivation. The SEPV Dixieland East project site is located in Township 16 South, Range 12 East, Section 7, and the SEPV Dixieland West project site is located in Township 16 South, Range 11 East, Section 12 (San Bernardino Baseline and Meridian). Both project sites are depicted on the United States Geological Survey (USGS) Plaster City, California (1979) 7.5minute topographic quadrangle (Figure 1).

NATURAL SETTING

The elevation of the project sites ranges from approximately 15 to 35 feet below mean sea level (BMSL). It is located in the Imperial Valley Area of the Colorado Desert. The region is characterized by an arid climate with dry, hot summers and mild winters. Annual rainfall averages 2-5 inches (Jaeger and Smith 1971), and usually occurs as winter rain and monsoonal summer showers. The gentle slopes of the project sites convey water in an easterly direction, and occupy the former western shoreline of prehistoric Lake Cahuilla. Now partially occupied by the artificially (and accidentally) created Salton Sea, the Lake Cahuilla was formed by periodic prehistoric natural diversions of the Colorado River. Local sediments retain a high water-holding capacity and served to contain the huge lake between circa A.D. 900 and 1500 during its most recent stand (Wilke 1978). The project sites occupy a relatively high shoreline for the former lake, and at that depth the lake would have exhibited salinity levels suitable to sustain a variety of fish used by the prehistoric human population (ibid.). The oldest local rocks are Precambrian rocks derived from the San Gorgonio complex, and are intruded by Cactus Granite, quartz monzonite, breccia, diorite porphyry, and plutonic rocks (Proctor 1968:9). Many lakes (now dry) in the Colorado Desert are thought to have supported small human populations during the terminal Pleistocene (22,000-11,000 years before present) and early Holocene (11,000-8,000 years before present). Since the desiccation of California's deserts during the later Holocene, local lakes have dried and significant sand dunes have formed. Common local flora includes cacti, desert agave, cheesebush, catclaw acacia, creosote, and seasonal grasses. Common animals include covotes, foxes, rabbits, rodents, ravens, and raptors (see Lightfoot and Parrish 2009:341-363).



CULTURAL SETTING

Prehistoric Context

Two primary regional syntheses are commonly utilized in the archaeological literature for southern California. The first was advanced by Wallace in 1955, and defines four cultural horizons, each with characteristic local variations: Early Man Horizon, Milling Stone, Intermediate, and Late Prehistoric. Employing a more ecological approach, Warren (1984) defined five periods in southern California prehistory: Lake Mojave, Pinto, Gypsum, Saratoga Springs, and Protohistoric. Warren viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts and coast. Many changes in settlement patterns and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continue to this day (Warren 1984).

Paleoindian (12,000 to 10,000 BP) and Lake Mojave (10,000 to 7,000 BP) Periods. Climatic warming characterizes the transition from the Paleoindian Period to the Lake Mojave Period. This transition also marks the end of Pleistocene Epoch and ushers in the Holocene. The Paleoindian Period has been loosely defined by isolated fluted (such as Clovis) projectile points, dated by their association with similar artifacts discovered in-situ in the Great Plains (Sutton 1996:227-228). Some fluted bifaces have been associated with fossil remains of Rancholabrean mammals approximately dated to ca. 13,300-10,800 BP near China Lake in the Mojave Desert. The Lake Mojave Period has been associated with cultural adaptations to moist conditions, and resource allocation pointing to more lacustrine environments than previously (Bedwell 1973). Artifacts that characterize this period include stemmed points, flake and core scrapers, choppers, hammerstones, and crescentics (Warren and Crabtree 1986:184). Projectile points associated with the period include the Silver Lake and Lake Mojave styles. Lake Mojave sites commonly occur on shorelines of Pleistocene lakes and streams, where geological surfaces of that epoch have been identified (Basgall and Hall 1994:69).

Pinto Period (7,000 to 4,000 BP). The Pinto Period has been largely characterized by desiccation of southern California. As formerly rich lacustrine environments began to disappear, the artifact record reveals more sporadic occupation of the drier regions, indicating occupants' recession into the cooler fringes (Warren 1984). Pinto Period sites are rare, and are characterized by surface manifestations that usually lack significant insitu remains. Artifacts from this era include Pinto projectile points and a flake industry similar to the Lake Mojave tool complex (Warren 1984), though use of Pinto projectile points as an index artifact for the era has been disputed (see Schroth 1994). Milling stones have also occasionally been associated with sites of this period (Warren 1984).

Gypsum Period. (4,000 to 1,500 BP). A temporary return to moister conditions during the Gypsum Period is postulated to have encouraged technological diversification afforded by the relative abundance of available resources (Warren 1984:419-420; Warren and Crabtree 1986:189). Lacustrine environments reappear and begin to be exploited during

this era (Shutler 1961, 1968). Concurrently a more diverse artifact assemblage reflects intensified reliance on plant resources. The new artifacts include milling stones, mortars, pestles, and a proliferation of Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched dart points (Warren 1984; Warren and Crabtree 1986). Other artifacts include leaf-shaped projectile points, rectangular-based knives, drills, large scraper planes, choppers, hammer stones, shaft straighteners, incised stone pendants, and drilled slate tubes. The bow and arrow appears around 2,000 BP, evidenced by the presence of a smaller type of projectile point, the Rose Spring point (Rogers 1939; Schroeder 1953, 1961; Shutler 1961; Yohe 1992).

Saratoga Springs Period (1,500 to 800 BP). During the Saratoga Springs Period regional cultural diversifications of Gypsum Period developments are evident. Influences from Patayan/Yuman assemblages are apparent in the southern inland areas, and include buff and brown wares often associated with Cottonwood and Desert Side-notched projectile points (Warren 1984:423). Obsidian becomes more commonly used throughout southern California and characteristic artifacts of the period include milling stones, mortars, pestles, ceramics, and ornamental and ritual objects. Large villages evidence more structured settlement patterns, and three types of identifiable archaeological sites (major habitation, temporary camps, and processing stations) emerge (McGuire and Hall 1988). Diversity of resource exploitation continues to expand, indicating a much more generalized, somewhat less mobile subsistence strategy.

Shoshonean Period (800 BP to Contact). The Shoshonean period is the first to benefit from contact-era ethnography –and is subject to its inherent biases. Interviews of living informants allowed anthropologists to match artifact assemblages and particular traditions with linguistic groups, and plot them geographically (see Kroeber 1925; Gifford 1918). During the Shoshonean Period, continued diversification of site assemblages and reduced Anasazi and Yuman influence both coincide with the expansion of Numic (Uto-Aztecan language family) speakers across the Great Basin, Takic (also Uto-Aztecan) speakers into southern California, and the Hopi across the Southwest (Sutton 1996). Hunting and gathering continued to diversify, and the diagnostic arrow points include desert side-notch and cottonwood triangular, which have been locally recorded. Ceramics continue to proliferate, though are more common in the desert during this period (Warren and Crabtree 1986). Trade routes have become well established between coastal and inland groups during this period.

Ethnography

Kumeyaay. The Kumeyaay were also known as Tipai-Ipai, Kamia, and formerly as Diegueño (Luomala 1978; Kroeber 1925). Kumeyaay boundaries were somewhat fluid. Their territory ranges from the San Luis Rey River in the north to the Salton Sea and Sand Hills in the east, south to the Hardy River and west to the Todas Santos Bay in Baja, California. Kumeyaay spoke three distinct Yuman language family dialects (still often generalized as Diegueño), including Ipai in the north, Tipai in the south, and a third hypothesized dialect in Baja's southern interior (Luomala 1978:592-593). The Kumeyaay occupied semi-sedentary villages or rancherias, and subsisted by hunting and gathering small game, acorns, grass seeds, and other plant resources. Kumeyaay stone tools include complex chipped and groundstone industries, which are commonly manufactured

using locally abundant quartzite, felsite, andesite, and fine-grained granitics. Obsidian, chalcedony, chert, and other stone tool materials were also used, but were acquired through trade.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Cleland 1962).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Investigator for the current study. He carried out the fieldwork with assistance from BCR Consulting Staff Archaeologist Maximilian van Rensselaer, B.A., and Geographic Information Systems (GIS) Specialist and Staff Archaeologist Joseph Brunzell. Mr. van Rensselaer and BCR Consulting Staff Archaeologist Anne Maloney completed the research through the South Coast Information Center (SCIC). David Brunzell wrote the technical report, and completed the Department of Park and Recreation (DPR) 523 forms with assistance from Mr. van Rensselaer.

RESEARCH DESIGN

This work was completed pursuant to CEQA, the Public Resources Code (PRC) Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The pedestrian cultural resources survey was intended to locate and document previously recorded or new cultural resources, including archaeological sites, features, isolates, and buildings that exceed 45 years in age within defined project boundaries. The project sites were examined using 15 meter transect intervals, where accessible, and using archaeological test excavations.

This study is intended to determine whether cultural resources are located within the boundaries of the project sites, whether any cultural resources therein are significant pursuant to the above-referenced regulations and standards, and to develop specific mitigation measures that will address potential impacts to existing or potential resources. Tasks pursued to achieve that end include:

- Vertebrate paleontology resources report through Dr. Samuel McLeod of the Los Angeles County Natural History Museum;
- Cultural resources records search to review studies and documentation of cultural resources recorded within a one-mile radius of the project boundaries;
- Systematic pedestrian survey of the both project sites and archaeological test excavations;
- Evaluation of California Register of Historical Resources (California Register) eligibility for any cultural resources discovered;
- Development of recommendations and mitigation measures for cultural resources documented within the boundaries of the project sites, following CEQA;
- Completion of DPR 523 forms for any discovered cultural resources.

METHODS

Research

On March 5, and 12, 2015 a records search was conducted at the SCIC. This archival research reviewed the status of all recorded historic and prehistoric cultural resources recorded, and survey and excavation reports completed within one mile of the project sites. Additional resources reviewed included the National Register of Historic Places (National Register), the California Register, and documents and inventories published by the California Office of Historic Preservation (OHP). These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Field Survey

A pedestrian cultural resources field survey of the project sites was conducted on March 3 and April 2, 2015. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the project sites, where accessible. Cultural resources were recorded on DPR 523 forms. Digital photographs included detail photographs of all cultural resources. Cultural resources were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix A)
- Hand-held Garmin Global Positioning systems for mapping purposes
- Digital photography of all cultural resources (see Appendix A).

Surface Collection and Archaeological Test Excavations

Surface collection and archaeological test excavations were also conducted to evaluate a prehistoric site discovered within the SEPV Dixieland West project site for California Register eligibility (see also Results/Field Survey, below). Based on location of the surface artifacts, a maximum of six shovel test pits (STPs) were planned in order to apprehend data from immediately below the site surface. STPs were approximately 35 centimeters in diameter and were excavated at 20-centimeter intervals. Each discrete interval was screened to identify the presence/absence of cultural remains. Sediment was screened through 1/8-inch hardware mesh, and any artifacts were bagged, labeled, and collected for analysis. If cultural remains had been identified, the site would have been considered present in the area of the STP. If remains were absent in six consecutive STPs, the site would not be considered to retain additional data potential.

RESULTS

Research

Data from the SCIC revealed that 20 previous cultural resources studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. Four of the previous studies have assessed portions of the project sites, and seven cultural resources have been previously recorded within the boundaries of SEPV Dixieland West. These included six isolated prehistoric artifacts, and one secondary deposit of mixed prehistoric artifacts and modern materials. No cultural resources have been previously recorded within the boundaries of SEPV Dixieland East. The records search is summarized as follows:

Table A. Cultural Resources and Reports Within the Project Sites' Study Radius

USGS 7.5 Minute	Cultural Resources Within One Mile of	Studies Within One Mile of
Quadrangle	Project Sites	Project Sites
Plaster City, California (1979)	P-13-435, 1724, 3399, 6390, 6391, 6392, 6394, 6398, 7816, 7834, 7886, 8334, 8418, 8489, 8653, 8657, 8658, 8820, 8821, 9302, 9539*, 9540*, 9589*, 9594, 9880, 10538, 10656, 11401, 11644, 11645, 11646, 11647, 11648, 11742, 11743, 13118, 13122*, 13123*, 13124*, 13125*, 13126, 13220, 13221, 13222, 13276, 13286, 14652	IM106-203**, 207** 210**, 252, 297, 757, 804, 820, 916, 1057, 1092, 1182, 1228, 1330, 1350**, 1517, 1534, 1535, 1541, 1542

^{*}Recorded within SEPV Dixieland West.

Field Survey

During the field survey, BCR Consulting archaeologists updated documentation for the seven previously recorded cultural resources using DPR 523 forms, and identified one

^{**}Previously assessed portions of the project sites.

previously unrecorded cultural resource (a prehistoric artifact scatter temporarily designated SEP1501-P-1). Each of the eight resources was discovered within SEPV Dixieland West, and is described below (see also Appendix A).

- **P-13-9539.** This isolate was originally recorded as "one porphyritic metavolcanic debitage and one black volcanic debitage located amongst dense creosote mounds separated by rills" (Doose et al. 2007a). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-9540.** This isolate was originally recorded as "one porphyritic metavolcanic debitage located amongst dense creosote mounds separated by rills" (Doose et al. 2007b). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-9589.** This isolate was originally recorded as "two buffware pottery sherds situated on sandy alluvial sediment" (Doose et al. 2007c). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13122.** This isolate was originally recorded as "a weathered, porphyritic, black, metavolcanic flake" (Doose et al. 2007d). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13123.** This isolate was originally recorded as "a weathered, medium brown color buffware ceramic body sherd" (Doose et al. 2007e). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13124.** This isolate was originally recorded as "an edge modified flake, made of blue/gray porphyritic metavolcanic material" (Doose et al. 2007f). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13125.** This site was originally recorded as "a possible secondary deposit consisting of a lithic scatter" (Doose et al. 2007g). Additionally, "lithics include obsidian, jasper, and petrified wood" (ibid). BCR Consulting re-identified the site during intensive pedestrian field survey on March 3, 2015. We found the same materials mixed with modern shotgun shells and non-diagnostic rusted cans. The deposit is located atop sediments in a clearing created by an intersection of off road vehicle tracks. This appears to be a secondary deposit accumulated during unauthorized collecting.
- **SEP1501-P-1.** This site consists of a low-density artifact scatter containing one andesite core, an andesite core reduction flake, two reddish ceramic potsherds, two fish ribs, and a small concentration of fire-affected rock. The boundaries have been defined by the extent of the artifact scatter in addition to limits imposed by vegetation surrounding the site. The site appears to be in poor condition. It is located on a bench with an eastern aspect. Alterations to the site have resulted from sheetwashing and vegetation growth. The site is located in creosote scrub with a large screwbean mesquite located at the southern site boundary.

Surface Collection and Archaeological Test Excavations (SEPV Dixieland West)

The prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) from the records search were not re-identified during the current study. Since isolated artifacts have limited data potential, none of these is considered a "historical resource" under CEQA and they do not warrant further consideration. Also, P-13-13125 is a mixed artifact concentration atop sediment in a clearing created by an intersection of off road vehicle tracks. The location atop disturbed sediment combined with the mixture of prehistoric and modern items indicates that this resource is a secondary deposit accumulated during unauthorized collecting. As a result P-13-13125 has limited data potential and is not considered a "historical resource" under CEQA. It does not warrant further consideration.

SEP1501-P-1. BCR Consulting archaeologists originally identified this site on March 3, 2015 (see Results/Field Survey section). BCR Consulting revisited the site on April 2, 2015, to complete the surface collection, STP excavation, and mapping. The surface collection yielded the following samples: one fire affected rock, one andesite secondary flake, and one reddish ceramic body sherd. The additional fire affected rocks, ceramic potsherd, and andesite core lacked information and were not collected. The fish bones found during the original site visit could not be found during the site revisit. Due to the low analytical value of the surface finds, additional STPs beyond the original research design (10 total) were excavated on this site. Each STP was intuitively placed within 20 meters of the surface scatter in order to help elicit the horizontal and vertical extent of the deposit. Excavations did not yield any buried cultural remains, relevant soil changes, or visible signs of cultural activity.

SIGNIFICANCE EVALUATIONS

During the field survey and research, eight prehistoric resources were identified (all within SEPV Dixieland West). Six of these were prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124), and one (P-13-13125) was the result of a secondary deposit. As noted above, isolated artifacts and secondary deposits have limited data potential and are not considered "historical resources" under CEQA. They do not warrant further consideration. One additional prehistoric artifact scatter (SEP1501-P-1) with potential for buried resources was also identified. CEQA (PRC Chapter 2.6, Section 21083.2 and CCR Title 145, Chapter 3, Article 5, Section 15064.5) calls for the evaluation and recordation of such resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the CEQA Guidelines and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance.

Significance Criteria

California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

- 1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.:
- 2. It is associated with the lives of persons important to local, California, or U.S. history;
- 3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
- 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after report completion, all potentially eligible resources older than 45 years require evaluation. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association. Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

SIGNIFICANCE THRESHOLD CRITERIA

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;

c) Disturb any human remains, including those interred outside of formal cemeteries.

Significance thresholds are based upon evaluation of archaeological and historic-period resources within a project site.

Evaluation

SEP1501-P-1. BCR Consulting has conducted substantial research regarding the project and recommends that this prehistoric site is not associated with events that have made a significant contribution to the broad patterns of American or California history and cultural heritage (California Register Criterion 1). That research has also failed to show that the resource is associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to the resource (California Register Criterion 2). Prehistoric artifact scatters consisting of minimally-diagnostic artifacts do not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values (California Register Criterion 3). Pedestrian survey and test excavations have not revealed artifacts, features, or soils that indicate significant archaeological deposits. As a result, the site has not yielded and is not likely to yield information important to the prehistory or history of the local area, California, or the nation (California Register Criterion 4). Although a measure of integrity of location is retained, there is nothing to suggest integrity of setting, design, materials, workmanship, feeling, and association. The site exhibits low integrity and does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Because of the site's lack of integrity and failure to meet any of the above criteria BCR Consulting recommends that it is not considered potentially eligible for the California Register, and as such is not recommended a historical resource or unique archaeological resource under CEQA.

RECOMMENDATIONS

BCR Consulting has conducted an intensive Cultural Resources Assessment and Archaeological Test Excavations of the SEPV Imperial LLC Solar Project, including the SEPV Dixieland East and SEPV Dixieland West sites. Based on the above results, BCR Consulting recommends that the items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program (all within the boundaries of SEPV Dixieland West), are not "unique archaeological resources" or "historical resources" under CEQA. While the testing program has indicated that the soils tested do not contain significant buried deposits, this study has only tested a percentage of the project sites' subsurface area. Also, while all of the recorded resources were located within SEPV Dixieland West project site boundaries, both SEPV Dixieland East and SEPV Dixieland West are considered sensitive for buried cultural resources due to the high number of resources recorded in the vicinity. As a result, BCR Consulting recommends that an archaeological monitor be present during all proposed ground-disturbing activities associated with both the SEPV Dixieland East and the SEPV Dixieland West project sites. All monitoring should take place under the direct supervision of a cultural resource professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (project archaeologist). Prior to commencement of project related ground

disturbing activities within either the SEPV Dixieland East or the SEPV Dixieland West project sites, the project archaeologist should attend a pre-construction meeting with construction personnel. The project archaeologist should inform construction personnel that archaeological materials may be encountered, and provide information on the role of archaeological monitors. If any prehistoric or historic cultural resources are uncovered during any ground-disturbing activities within the project sites, the monitor should be empowered to temporarily halt or redirect construction work in the vicinity of the find until it can by evaluated by the project archaeologist. Impacts to finds determined to represent significant cultural resources will be mitigated through data recovery.

If human remains are encountered during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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APPENDIX A DEPARTMENT OF PARK AND RECREATION 523 FORMS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # P-13-009539 HRI#

Trinomial

Page 1 of 1	*Resource	• Name or # (Assign	ied by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "one porphyritic metavolcanic dense creosote mounds separated by rills", on 3/22/2007 by N. Doose	debitage and one black , W. Welsh, J. Huval, M.	volcanic debitage Werle, and T. Osuna	ocated amongst
BCR Consulting was unable to re-identify the isolate during intensive p	pedestrian field survey on	March 3, 2015.	

DPR 523L (1/95) *Required information State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **CONTINUATION SHEET**

Primary # P-13-009540 HRI#

Trinomial

Page 1 of 1	*Resource	Name or # (Assign	ned by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "one porphyritic metavolcanic oby rills", on 3/22/2007 by N. Doose, W. Welsh, J. Huval, M. Werle, and	lebitage located amongst T. Osuna.	dense creosote m	ounds separated
BCR Consulting was unable to re-identify the isolate during intensive p	edestrian field survey on	March 3, 2015.	

DPR 523L (1/95) *Required information

APPENDIX B PALEONTOLOGICAL RESOURCES OVERVIEW



Natural History Museum of Los Angeles County 900 Exposition Boulevard Los Angeles, CA 90007

tel 213.763.DINO www.nhm.org

Vertebrate Paleontology Section Telephone: (213) 763-3325 Fax: (213) 746-7431 e-mail: smcleod@nhm.org

5 March 2015

BCR Consulting 1420 Guadalajara Place Claremont, CA 91711

Attn: David Brunzell, Principal Investigator / Archaeologist

re: Paleontological resources for the proposed Dixieland West and Dixieland East Solar Projects, near Dixieland, Imperial County, project area

Dear David:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Dixieland West and Dixieland East Solar Projects, near Dixieland, Imperial County, project area as outlined on the portion of the Plaster City USGS topographic quadrangle map that you sent to me via e-mail on 25 February 2015. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have localities nearby from the same deposits that occur in the proposed project area.

Beneath soil, both sites of the proposed project area have surface lacustrine and fluvial [lake and stream channel] deposits of late Pleistocene or Holocene age [the latter less than 10,000 years before present] known as the Lake Cahuilla beds. We have several vertebrate fossil localities in these Lake Cahuilla beds, north-northwest of the project area northwest of the current Salton Sea (the remnant of the ancient Lake Cahuilla) and southwest of Coachella, including LACM 6252, 6253, and 6255. These localities produced a significant fauna of terrestrial and freshwater vertebrates (see attachment) as well as diatoms, land plants, clams, snails and crustaceans. A single jaw of the bighorn sheep *Ovis canadensis* was recovered from locality LACM 6256, nearby to the other localities listed above.

Even relatively shallow excavations in the Lake Cahuilla beds exposed in proposed project area may well encounter significant vertebrate fossil remains. Many of the fossil specimens collected from these latter deposits are small isolated elements of fossil organisms that were recovered from screen-washing sediment samples. Thus it is recommended that in addition to monitoring the excavations to collect any larger fossil remains uncovered, sediment samples be collected and processed to determine the small fossil potential at the proposed project site. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D. Vertebrate Paleontology

enclosures: attachment; invoice

Summel a. M. Leod

Vertebrate fossil taxa from the Lake Cahuilla Beds near Coachella based on specimens from localities LACM 6252-6253 and 6255

Osteichthyes

Cypriniformes

Catostomidae

Xyrauchen texanus razorback sucker

Cyprinidae

Gila elegans bonytail

Cyprinodon macularius desert pupfish

Reptilia

Squamata

Iguanidae

Phrynosomaplatyrhinosdesert horned lizardSceloporusmagisterdesert spiny lizard

Uma inornata Coachella Valley fringe-toed lizard

Urosaurus graciosus long-tailed brush lizard

Colubridae

Chionactis occipitalis western shovel-nosed snake

Hypsiglenatorquatanight snakePituophismelanoleucusgopher snake

Sonora semiannulata western ground snake

Crotalidae

Crotalus cerastes sidewinder rattlesnake

Aves

Passeriformes advanced land birds

Mammalia

Lagomorpha

Leporidae

Sylvilagus cottontail rabbit

Rodentia

Cricetidae

Neotoma lepida desert wood rat
Peromyscus white-footed mouse

Heteromyidae

Dipodomys kangaroo rat
Perognathus longimembris pocket mouse

Sciuridae

Ammospermophilus leucurus antelope ground squirrel

APPENDIX C NATIVE AMERICAN CORRESPONDENCE

CULTURAL RESOURCES ASSESSMENT AND

ARCHAEOLOGICAL TEST EXCAVATIONS

SEPV Imperial LLC Solar Project Sites (SEPV Dixieland East and SEPV Dixieland West)

Imperial County, California

Prepared for:

Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Boulevard, Suite 414 Los Angeles, California 90049

Prepared by:

David Brunzell, M.A., RPA BCR Consulting LLC 1420 Guadalajara Place Claremont, California 91711

Project No. SEP1501

National Archaeological Data Base (NADB) Information:

Type of Study: Intensive Survey
Resources Recorded: P-13-9539, 9540, 9589, 13122, 13123, 13124, 13125, SEP1501-P-1
Keywords: Prehistoric Lithic Isolates, Lithic Scatter, Ceramic
USGS Quadrangle: 7.5-minute Plaster City, California (1979)



MANAGEMENT SUMMARY

BCR Consulting LLC (BCR Consulting) is under contract to SEPV Imperial LLC to complete a Cultural Resources Assessment and Archaeological Test Excavations of the proposed SEPV Imperial LLC Solar Project (project) in the unincorporated community of Plaster City, Imperial County, California. The project occupies two contiguous sites on approximately 76 acres (cumulatively), north of the West Evan Hewes Highway. The two project sites are known as SEPV Dixieland East and SEPV Dixieland West, which are linked by a gen-tie corridor. A cultural resources records search, pedestrian field survey, archaeological test excavations, Native American consultation, and vertebrate paleontological resources overview have been completed for the project sites pursuant to the California Environmental Quality Act (CEQA).

The records search revealed that 20 previous cultural resource studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. Four of the previous studies have assessed portions of the project sites, and seven cultural resources have been previously recorded within the project sites' boundaries. All of the previously recorded resources within the project sites' boundaries were contained within SEPV Dixieland West. These resources are summarized below.

- P-13-9539: two isolated prehistoric lithic flakes;
- P-13-9540: one isolated prehistoric lithic flake;
- P-13-9589: two isolated pottery sherds:
- P-13-13122: one isolated prehistoric lithic flake;
- P-13-13123: one isolated pottery sherd;
- P-13-13124: one isolated prehistoric lithic flake;
- P-13-13125: prehistoric lithic scatter.

During the field survey BCR Consulting updated documentation for each of the seven cultural resources yielded by the records search, and identified one additional cultural resource, all within SEPV Dixieland West. No cultural resources were discovered within SEPV Dixieland East. The additional (previously unrecorded) resource is a prehistoric artifact scatter that has been temporarily designated SEP1501-P-1. The prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) from the records search were not reidentified during the current study. Since isolated artifacts have limited data potential, none of these is considered a "historical resource" under CEQA and they do not warrant further consideration. BCR Consulting did re-identify the prehistoric lithic scatter designated P-13-13125. This site appears to be a secondary deposit and as such does not retain any integrity. Lacking integrity, P-13-13125 is not recommended a "historical resource" under CEQA. The resource identified as SEP1501-P-1 was initially considered potentially eligible for listing in the California Register of Historical Resources (California Register; i.e. potentially a "historical resource" under CEQA) due to its potential significance. Preservation in place is the preferred manner of treatment for archaeological/historical resources. As preservation for this resource was not considered feasible, an archaeological testing program was recommended to determine whether the site contained important information potential. The recommended testing program included a sample surface collection, mapping of all artifacts, and shovel test pit excavation. This work was performed to determine the presence and significance of buried cultural resources. The artifacts recovered were not found to be associated with any intact archaeological features or soil changes, and no datable materials (including bone, suitable carbon samples, obsidian, and diagnostic projectile points) were noted during the current study.

Based on the above results, BCR Consulting recommends that the items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program, are not "unique archaeological resources" or "historical resources" under CEQA. While the testing program has indicated that the soils tested do not contain significant buried deposits, this study has only tested a percentage of the subsurface area. Also, while all of the recorded resources were located within SEPV Dixieland West project site boundaries, both SEPV Dixieland East and SEPV Dixieland West are considered sensitive for buried cultural resources due to the high number of resources recorded in the vicinity. As a result, BCR Consulting recommends that an archaeological monitor be present during all proposed ground-disturbing activities associated with both the SEPV Dixieland East and the SEPV Dixieland West project sites. All monitoring should take place under the direct supervision of a cultural resource professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (project archaeologist). Prior to commencement of project related ground disturbing activities within either the SEPV Dixieland East or the SEPV Dixieland West project sites, the project archaeologist should attend a preconstruction meeting with construction personnel. During this meeting, the project archaeologist would inform construction personnel that archaeological materials may be encountered, and provide information on the role of archaeological monitors. If any prehistoric or historic cultural resources are uncovered during any ground-disturbing activities within the project sites, the monitor should be empowered to temporarily halt or redirect construction work in the vicinity of the find until it can by evaluated by the project archaeologist. Impacts to finds determined to represent significant cultural resources will be mitigated through data recovery.

Department of Park and Recreation (DPR) 523 forms have been used to document the cultural resources located within the project sites' boundaries. These are included in Appendix A, along with site photographs. The Paleontological Resources Overview is included as Appendix B, and Native American communications are included as Appendix C.

If human remains are encountered during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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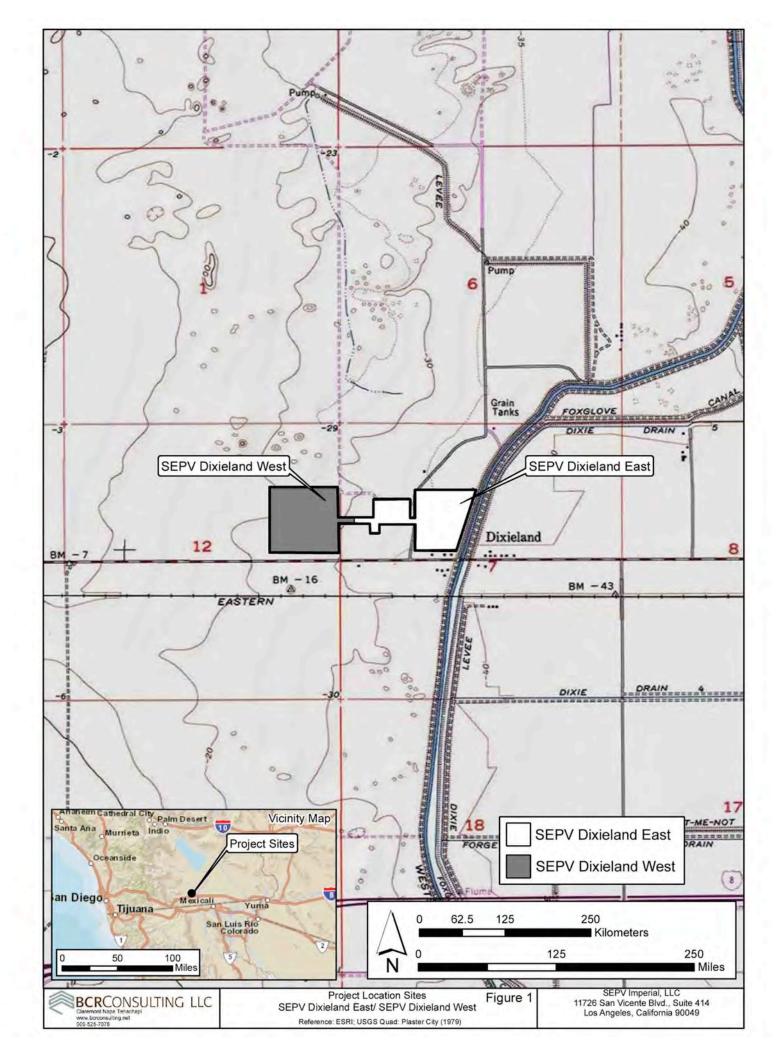
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INTRODUCTION

BCR Consulting LLC (BCR Consulting) is under contract to SEPV Imperial LLC to complete a Cultural Resources Assessment and Archaeological Test Excavations of the proposed SEPV Imperial LLC Solar Project (project) in the unincorporated community of Plaster City, Imperial County, California. A cultural resources records search, pedestrian field survey, archaeological test excavations, Native American consultation, and paleontological resources overview have been completed for the project pursuant to the California Environmental Quality Act (CEQA). The project occupies two contiguous sites on approximately 76 acres (cumulatively), north of the West Evan Hewes Highway. The two project sites are known as SEPV Dixieland East and SEPV Dixieland West, which are linked by a gen-tie corridor. The project sites are mostly surrounded by vacant desert although an electric substation is located between the two, north of the gen-tie corridor, and the Westside Main Canal is located along the eastern boundary of SEPV Dixieland East. Both project sites are vacant, however the Dixieland East portion has been artificially terraced for cultivation. The SEPV Dixieland East project site is located in Township 16 South, Range 12 East, Section 7, and the SEPV Dixieland West project site is located in Township 16 South, Range 11 East, Section 12 (San Bernardino Baseline and Meridian). Both project sites are depicted on the United States Geological Survey (USGS) Plaster City, California (1979) 7.5minute topographic quadrangle (Figure 1).

NATURAL SETTING

The elevation of the project sites ranges from approximately 15 to 35 feet below mean sea level (BMSL). It is located in the Imperial Valley Area of the Colorado Desert. The region is characterized by an arid climate with dry, hot summers and mild winters. Annual rainfall averages 2-5 inches (Jaeger and Smith 1971), and usually occurs as winter rain and monsoonal summer showers. The gentle slopes of the project sites convey water in an easterly direction, and occupy the former western shoreline of prehistoric Lake Cahuilla. Now partially occupied by the artificially (and accidentally) created Salton Sea, the Lake Cahuilla was formed by periodic prehistoric natural diversions of the Colorado River. Local sediments retain a high water-holding capacity and served to contain the huge lake between circa A.D. 900 and 1500 during its most recent stand (Wilke 1978). The project sites occupy a relatively high shoreline for the former lake, and at that depth the lake would have exhibited salinity levels suitable to sustain a variety of fish used by the prehistoric human population (ibid.). The oldest local rocks are Precambrian rocks derived from the San Gorgonio complex, and are intruded by Cactus Granite, quartz monzonite, breccia, diorite porphyry, and plutonic rocks (Proctor 1968:9). Many lakes (now dry) in the Colorado Desert are thought to have supported small human populations during the terminal Pleistocene (22,000-11,000 years before present) and early Holocene (11,000-8,000 years before present). Since the desiccation of California's deserts during the later Holocene, local lakes have dried and significant sand dunes have formed. Common local flora includes cacti, desert agave, cheesebush, catclaw acacia, creosote, and seasonal grasses. Common animals include covotes, foxes, rabbits, rodents, ravens, and raptors (see Lightfoot and Parrish 2009:341-363).



CULTURAL SETTING

Prehistoric Context

Two primary regional syntheses are commonly utilized in the archaeological literature for southern California. The first was advanced by Wallace in 1955, and defines four cultural horizons, each with characteristic local variations: Early Man Horizon, Milling Stone, Intermediate, and Late Prehistoric. Employing a more ecological approach, Warren (1984) defined five periods in southern California prehistory: Lake Mojave, Pinto, Gypsum, Saratoga Springs, and Protohistoric. Warren viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts and coast. Many changes in settlement patterns and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continue to this day (Warren 1984).

Paleoindian (12,000 to 10,000 BP) and Lake Mojave (10,000 to 7,000 BP) Periods. Climatic warming characterizes the transition from the Paleoindian Period to the Lake Mojave Period. This transition also marks the end of Pleistocene Epoch and ushers in the Holocene. The Paleoindian Period has been loosely defined by isolated fluted (such as Clovis) projectile points, dated by their association with similar artifacts discovered in-situ in the Great Plains (Sutton 1996:227-228). Some fluted bifaces have been associated with fossil remains of Rancholabrean mammals approximately dated to ca. 13,300-10,800 BP near China Lake in the Mojave Desert. The Lake Mojave Period has been associated with cultural adaptations to moist conditions, and resource allocation pointing to more lacustrine environments than previously (Bedwell 1973). Artifacts that characterize this period include stemmed points, flake and core scrapers, choppers, hammerstones, and crescentics (Warren and Crabtree 1986:184). Projectile points associated with the period include the Silver Lake and Lake Mojave styles. Lake Mojave sites commonly occur on shorelines of Pleistocene lakes and streams, where geological surfaces of that epoch have been identified (Basgall and Hall 1994:69).

Pinto Period (7,000 to 4,000 BP). The Pinto Period has been largely characterized by desiccation of southern California. As formerly rich lacustrine environments began to disappear, the artifact record reveals more sporadic occupation of the drier regions, indicating occupants' recession into the cooler fringes (Warren 1984). Pinto Period sites are rare, and are characterized by surface manifestations that usually lack significant insitu remains. Artifacts from this era include Pinto projectile points and a flake industry similar to the Lake Mojave tool complex (Warren 1984), though use of Pinto projectile points as an index artifact for the era has been disputed (see Schroth 1994). Milling stones have also occasionally been associated with sites of this period (Warren 1984).

Gypsum Period. (4,000 to 1,500 BP). A temporary return to moister conditions during the Gypsum Period is postulated to have encouraged technological diversification afforded by the relative abundance of available resources (Warren 1984:419-420; Warren and Crabtree 1986:189). Lacustrine environments reappear and begin to be exploited during

this era (Shutler 1961, 1968). Concurrently a more diverse artifact assemblage reflects intensified reliance on plant resources. The new artifacts include milling stones, mortars, pestles, and a proliferation of Humboldt Concave Base, Gypsum Cave, Elko Eared, and Elko Corner-notched dart points (Warren 1984; Warren and Crabtree 1986). Other artifacts include leaf-shaped projectile points, rectangular-based knives, drills, large scraper planes, choppers, hammer stones, shaft straighteners, incised stone pendants, and drilled slate tubes. The bow and arrow appears around 2,000 BP, evidenced by the presence of a smaller type of projectile point, the Rose Spring point (Rogers 1939; Schroeder 1953, 1961; Shutler 1961; Yohe 1992).

Saratoga Springs Period (1,500 to 800 BP). During the Saratoga Springs Period regional cultural diversifications of Gypsum Period developments are evident. Influences from Patayan/Yuman assemblages are apparent in the southern inland areas, and include buff and brown wares often associated with Cottonwood and Desert Side-notched projectile points (Warren 1984:423). Obsidian becomes more commonly used throughout southern California and characteristic artifacts of the period include milling stones, mortars, pestles, ceramics, and ornamental and ritual objects. Large villages evidence more structured settlement patterns, and three types of identifiable archaeological sites (major habitation, temporary camps, and processing stations) emerge (McGuire and Hall 1988). Diversity of resource exploitation continues to expand, indicating a much more generalized, somewhat less mobile subsistence strategy.

Shoshonean Period (800 BP to Contact). The Shoshonean period is the first to benefit from contact-era ethnography –and is subject to its inherent biases. Interviews of living informants allowed anthropologists to match artifact assemblages and particular traditions with linguistic groups, and plot them geographically (see Kroeber 1925; Gifford 1918). During the Shoshonean Period, continued diversification of site assemblages and reduced Anasazi and Yuman influence both coincide with the expansion of Numic (Uto-Aztecan language family) speakers across the Great Basin, Takic (also Uto-Aztecan) speakers into southern California, and the Hopi across the Southwest (Sutton 1996). Hunting and gathering continued to diversify, and the diagnostic arrow points include desert side-notch and cottonwood triangular, which have been locally recorded. Ceramics continue to proliferate, though are more common in the desert during this period (Warren and Crabtree 1986). Trade routes have become well established between coastal and inland groups during this period.

Ethnography

Kumeyaay. The Kumeyaay were also known as Tipai-Ipai, Kamia, and formerly as Diegueño (Luomala 1978; Kroeber 1925). Kumeyaay boundaries were somewhat fluid. Their territory ranges from the San Luis Rey River in the north to the Salton Sea and Sand Hills in the east, south to the Hardy River and west to the Todas Santos Bay in Baja, California. Kumeyaay spoke three distinct Yuman language family dialects (still often generalized as Diegueño), including Ipai in the north, Tipai in the south, and a third hypothesized dialect in Baja's southern interior (Luomala 1978:592-593). The Kumeyaay occupied semi-sedentary villages or rancherias, and subsisted by hunting and gathering small game, acorns, grass seeds, and other plant resources. Kumeyaay stone tools include complex chipped and groundstone industries, which are commonly manufactured

using locally abundant quartzite, felsite, andesite, and fine-grained granitics. Obsidian, chalcedony, chert, and other stone tool materials were also used, but were acquired through trade.

History

Historic-era California is generally divided into three periods: the Spanish or Mission Period (1769 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present).

Spanish Period. The first European to pass through the area is thought to be a Spaniard called Father Francisco Garces. Having become familiar with the area, Garces acted as a guide to Juan Bautista de Anza, who had been commissioned to lead a group across the desert from a Spanish outpost in Arizona to set up quarters at the Mission San Gabriel in 1771 near what today is Pasadena (Beck and Haase 1974). Garces was followed by Alta California Governor Pedro Fages, who briefly explored the region in 1772. Searching for San Diego Presidio deserters, Fages had traveled through Riverside to San Bernardino, crossed over the mountains into the Mojave Desert, and then journeyed westward to the San Joaquin Valley (Beck and Haase 1974).

Mexican Period. In 1821, Mexico overthrew Spanish rule and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings, and released their neophytes (Beattie and Beattie 1974).

American Period. The American Period, 1848–Present, began with the Treaty of Guadalupe Hidalgo. In 1850, California was accepted into the Union of the United States primarily due to the population increase created by the Gold Rush of 1849. The cattle industry reached its greatest prosperity during the first years of the American Period. Mexican Period land grants had created large pastoral estates in California, and demand for beef during the Gold Rush led to a cattle boom that lasted from 1849–1855. However, beginning about 1855, the demand for beef began to decline due to imports of sheep from New Mexico and cattle from the Mississippi and Missouri Valleys. When the beef market collapsed, many California ranchers lost their ranchos through foreclosure. A series of disastrous floods in 1861–1862, followed by a significant drought further diminished the economic impact of local ranching. This decline combined with ubiquitous agricultural and real estate developments of the late 19th century, set the stage for diversified economic pursuits that have continued to proliferate to this day (Cleland 1962).

PERSONNEL

David Brunzell, M.A., RPA acted as the Project Manager and Principal Investigator for the current study. He carried out the fieldwork with assistance from BCR Consulting Staff Archaeologist Maximilian van Rensselaer, B.A., and Geographic Information Systems (GIS) Specialist and Staff Archaeologist Joseph Brunzell. Mr. van Rensselaer and BCR Consulting Staff Archaeologist Anne Maloney completed the research through the South Coast Information Center (SCIC). David Brunzell wrote the technical report, and completed the Department of Park and Recreation (DPR) 523 forms with assistance from Mr. van Rensselaer.

RESEARCH DESIGN

This work was completed pursuant to CEQA, the Public Resources Code (PRC) Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The pedestrian cultural resources survey was intended to locate and document previously recorded or new cultural resources, including archaeological sites, features, isolates, and buildings that exceed 45 years in age within defined project boundaries. The project sites were examined using 15 meter transect intervals, where accessible, and using archaeological test excavations.

This study is intended to determine whether cultural resources are located within the boundaries of the project sites, whether any cultural resources therein are significant pursuant to the above-referenced regulations and standards, and to develop specific mitigation measures that will address potential impacts to existing or potential resources. Tasks pursued to achieve that end include:

- Vertebrate paleontology resources report through Dr. Samuel McLeod of the Los Angeles County Natural History Museum;
- Cultural resources records search to review studies and documentation of cultural resources recorded within a one-mile radius of the project boundaries;
- Systematic pedestrian survey of the both project sites and archaeological test excavations;
- Evaluation of California Register of Historical Resources (California Register) eligibility for any cultural resources discovered;
- Development of recommendations and mitigation measures for cultural resources documented within the boundaries of the project sites, following CEQA;
- Completion of DPR 523 forms for any discovered cultural resources.

METHODS

Research

On March 5, and 12, 2015 a records search was conducted at the SCIC. This archival research reviewed the status of all recorded historic and prehistoric cultural resources recorded, and survey and excavation reports completed within one mile of the project sites. Additional resources reviewed included the National Register of Historic Places (National Register), the California Register, and documents and inventories published by the California Office of Historic Preservation (OHP). These include the lists of California Historical Landmarks, California Points of Historical Interest, Listing of National Register Properties, and the Inventory of Historic Structures.

Field Survey

A pedestrian cultural resources field survey of the project sites was conducted on March 3 and April 2, 2015. The survey was conducted by walking parallel transects spaced approximately 15 meters apart across 100 percent of the project sites, where accessible. Cultural resources were recorded on DPR 523 forms. Digital photographs included detail photographs of all cultural resources. Cultural resources were recorded per the California OHP *Instructions for Recording Historical Resources* in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix A)
- Hand-held Garmin Global Positioning systems for mapping purposes
- Digital photography of all cultural resources (see Appendix A).

Surface Collection and Archaeological Test Excavations

Surface collection and archaeological test excavations were also conducted to evaluate a prehistoric site discovered within the SEPV Dixieland West project site for California Register eligibility (see also Results/Field Survey, below). Based on location of the surface artifacts, a maximum of six shovel test pits (STPs) were planned in order to apprehend data from immediately below the site surface. STPs were approximately 35 centimeters in diameter and were excavated at 20-centimeter intervals. Each discrete interval was screened to identify the presence/absence of cultural remains. Sediment was screened through 1/8-inch hardware mesh, and any artifacts were bagged, labeled, and collected for analysis. If cultural remains had been identified, the site would have been considered present in the area of the STP. If remains were absent in six consecutive STPs, the site would not be considered to retain additional data potential.

RESULTS

Research

Data from the SCIC revealed that 20 previous cultural resources studies have taken place within or adjacent to the project sites, and 47 cultural resources have been recorded within one-mile of the project sites. Four of the previous studies have assessed portions of the project sites, and seven cultural resources have been previously recorded within the boundaries of SEPV Dixieland West. These included six isolated prehistoric artifacts, and one secondary deposit of mixed prehistoric artifacts and modern materials. No cultural resources have been previously recorded within the boundaries of SEPV Dixieland East. The records search is summarized as follows:

Table A. Cultural Resources and Reports Within the Project Sites' Study Radius

USGS 7.5 Minute	Cultural Resources Within One Mile of	Studies Within One Mile of
Quadrangle	Project Sites	Project Sites
Plaster City, California (1979)	P-13-435, 1724, 3399, 6390, 6391, 6392, 6394, 6398, 7816, 7834, 7886, 8334, 8418, 8489, 8653, 8657, 8658, 8820, 8821, 9302, 9539*, 9540*, 9589*, 9594, 9880, 10538, 10656, 11401, 11644, 11645, 11646, 11647, 11648, 11742, 11743, 13118, 13122*, 13123*, 13124*, 13125*, 13126, 13220, 13221, 13222, 13276, 13286, 14652	IM106-203**, 207** 210**, 252, 297, 757, 804, 820, 916, 1057, 1092, 1182, 1228, 1330, 1350**, 1517, 1534, 1535, 1541, 1542

^{*}Recorded within SEPV Dixieland West.

Field Survey

During the field survey, BCR Consulting archaeologists updated documentation for the seven previously recorded cultural resources using DPR 523 forms, and identified one

^{**}Previously assessed portions of the project sites.

previously unrecorded cultural resource (a prehistoric artifact scatter temporarily designated SEP1501-P-1). Each of the eight resources was discovered within SEPV Dixieland West, and is described below (see also Appendix A).

- **P-13-9539.** This isolate was originally recorded as "one porphyritic metavolcanic debitage and one black volcanic debitage located amongst dense creosote mounds separated by rills" (Doose et al. 2007a). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-9540.** This isolate was originally recorded as "one porphyritic metavolcanic debitage located amongst dense creosote mounds separated by rills" (Doose et al. 2007b). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-9589.** This isolate was originally recorded as "two buffware pottery sherds situated on sandy alluvial sediment" (Doose et al. 2007c). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13122.** This isolate was originally recorded as "a weathered, porphyritic, black, metavolcanic flake" (Doose et al. 2007d). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13123.** This isolate was originally recorded as "a weathered, medium brown color buffware ceramic body sherd" (Doose et al. 2007e). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13124.** This isolate was originally recorded as "an edge modified flake, made of blue/gray porphyritic metavolcanic material" (Doose et al. 2007f). BCR Consulting was unable to find the isolate during intensive pedestrian field survey on March 3, 2015.
- **P-13-13125.** This site was originally recorded as "a possible secondary deposit consisting of a lithic scatter" (Doose et al. 2007g). Additionally, "lithics include obsidian, jasper, and petrified wood" (ibid). BCR Consulting re-identified the site during intensive pedestrian field survey on March 3, 2015. We found the same materials mixed with modern shotgun shells and non-diagnostic rusted cans. The deposit is located atop sediments in a clearing created by an intersection of off road vehicle tracks. This appears to be a secondary deposit accumulated during unauthorized collecting.
- **SEP1501-P-1.** This site consists of a low-density artifact scatter containing one andesite core, an andesite core reduction flake, two reddish ceramic potsherds, two fish ribs, and a small concentration of fire-affected rock. The boundaries have been defined by the extent of the artifact scatter in addition to limits imposed by vegetation surrounding the site. The site appears to be in poor condition. It is located on a bench with an eastern aspect. Alterations to the site have resulted from sheetwashing and vegetation growth. The site is located in creosote scrub with a large screwbean mesquite located at the southern site boundary.

Surface Collection and Archaeological Test Excavations (SEPV Dixieland West)

The prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124) from the records search were not re-identified during the current study. Since isolated artifacts have limited data potential, none of these is considered a "historical resource" under CEQA and they do not warrant further consideration. Also, P-13-13125 is a mixed artifact concentration atop sediment in a clearing created by an intersection of off road vehicle tracks. The location atop disturbed sediment combined with the mixture of prehistoric and modern items indicates that this resource is a secondary deposit accumulated during unauthorized collecting. As a result P-13-13125 has limited data potential and is not considered a "historical resource" under CEQA. It does not warrant further consideration.

SEP1501-P-1. BCR Consulting archaeologists originally identified this site on March 3, 2015 (see Results/Field Survey section). BCR Consulting revisited the site on April 2, 2015, to complete the surface collection, STP excavation, and mapping. The surface collection yielded the following samples: one fire affected rock, one andesite secondary flake, and one reddish ceramic body sherd. The additional fire affected rocks, ceramic potsherd, and andesite core lacked information and were not collected. The fish bones found during the original site visit could not be found during the site revisit. Due to the low analytical value of the surface finds, additional STPs beyond the original research design (10 total) were excavated on this site. Each STP was intuitively placed within 20 meters of the surface scatter in order to help elicit the horizontal and vertical extent of the deposit. Excavations did not yield any buried cultural remains, relevant soil changes, or visible signs of cultural activity.

SIGNIFICANCE EVALUATIONS

During the field survey and research, eight prehistoric resources were identified (all within SEPV Dixieland West). Six of these were prehistoric isolates (P-13-9539, 9540, 9589, 13122, 13123, and 13124), and one (P-13-13125) was the result of a secondary deposit. As noted above, isolated artifacts and secondary deposits have limited data potential and are not considered "historical resources" under CEQA. They do not warrant further consideration. One additional prehistoric artifact scatter (SEP1501-P-1) with potential for buried resources was also identified. CEQA (PRC Chapter 2.6, Section 21083.2 and CCR Title 145, Chapter 3, Article 5, Section 15064.5) calls for the evaluation and recordation of such resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the CEQA Guidelines and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance.

Significance Criteria

California Register of Historical Resources. The California Register criteria are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

- 1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.:
- 2. It is associated with the lives of persons important to local, California, or U.S. history;
- 3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
- 4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2]). Fifty years is normally considered sufficient time for a potential historical resource, and in order that the evaluation remain valid for a minimum of five years after report completion, all potentially eligible resources older than 45 years require evaluation. The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association. Finally, CEQA requires that significant effects on unique archaeological resources be considered and addressed. CEQA defines a unique archaeological resource as any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

SIGNIFICANCE THRESHOLD CRITERIA

CEQA Guidelines Section 15064.5 Appendix G includes significance criteria relative to archaeological and historical resources. These have been utilized as thresholds of significance here, and a project would have a significant environmental impact if it would:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in section 10564.5;
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 10564.5;

c) Disturb any human remains, including those interred outside of formal cemeteries.

Significance thresholds are based upon evaluation of archaeological and historic-period resources within a project site.

Evaluation

SEP1501-P-1. BCR Consulting has conducted substantial research regarding the project and recommends that this prehistoric site is not associated with events that have made a significant contribution to the broad patterns of American or California history and cultural heritage (California Register Criterion 1). That research has also failed to show that the resource is associated with the lives of persons important to our past, or that persons of significant regional or national stature can be linked to the resource (California Register Criterion 2). Prehistoric artifact scatters consisting of minimally-diagnostic artifacts do not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values (California Register Criterion 3). Pedestrian survey and test excavations have not revealed artifacts, features, or soils that indicate significant archaeological deposits. As a result, the site has not yielded and is not likely to yield information important to the prehistory or history of the local area, California, or the nation (California Register Criterion 4). Although a measure of integrity of location is retained, there is nothing to suggest integrity of setting, design, materials, workmanship, feeling, and association. The site exhibits low integrity and does not meet criteria necessary to define it as a unique archaeological resource under CEQA. Because of the site's lack of integrity and failure to meet any of the above criteria BCR Consulting recommends that it is not considered potentially eligible for the California Register, and as such is not recommended a historical resource or unique archaeological resource under CEQA.

RECOMMENDATIONS

BCR Consulting has conducted an intensive Cultural Resources Assessment and Archaeological Test Excavations of the SEPV Imperial LLC Solar Project, including the SEPV Dixieland East and SEPV Dixieland West sites. Based on the above results, BCR Consulting recommends that the items recorded during the pedestrian survey, and the prehistoric site evaluated during the testing program (all within the boundaries of SEPV Dixieland West), are not "unique archaeological resources" or "historical resources" under CEQA. While the testing program has indicated that the soils tested do not contain significant buried deposits, this study has only tested a percentage of the project sites' subsurface area. Also, while all of the recorded resources were located within SEPV Dixieland West project site boundaries, both SEPV Dixieland East and SEPV Dixieland West are considered sensitive for buried cultural resources due to the high number of resources recorded in the vicinity. As a result, BCR Consulting recommends that an archaeological monitor be present during all proposed ground-disturbing activities associated with both the SEPV Dixieland East and the SEPV Dixieland West project sites. All monitoring should take place under the direct supervision of a cultural resource professional who meets the Secretary of the Interior's Professional Qualification Standards for archaeology (project archaeologist). Prior to commencement of project related ground

disturbing activities within either the SEPV Dixieland East or the SEPV Dixieland West project sites, the project archaeologist should attend a pre-construction meeting with construction personnel. The project archaeologist should inform construction personnel that archaeological materials may be encountered, and provide information on the role of archaeological monitors. If any prehistoric or historic cultural resources are uncovered during any ground-disturbing activities within the project sites, the monitor should be empowered to temporarily halt or redirect construction work in the vicinity of the find until it can by evaluated by the project archaeologist. Impacts to finds determined to represent significant cultural resources will be mitigated through data recovery.

If human remains are encountered during project activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC.

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- 2007d Site Record for CA-RIV-13122. On File at the South Coast Information Center, San Diego, California.
- 2007e Site Record for CA-RIV-13123. On File at the South Coast Information Center, San Diego, California.
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APPENDIX A DEPARTMENT OF PARK AND RECREATION 523 FORMS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary # P-13-009539 HRI#

Trinomial

Page 1 of 1	*Resource	• Name or # (Assign	ied by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "one porphyritic metavolcanic dense creosote mounds separated by rills", on 3/22/2007 by N. Doose	debitage and one black , W. Welsh, J. Huval, M.	volcanic debitage Werle, and T. Osuna	ocated amongst
BCR Consulting was unable to re-identify the isolate during intensive p	pedestrian field survey on	March 3, 2015.	

Primary # P-13-009540 HRI#

Trinomial

Page 1 of 1	*Resource	Name or # (Assig	ned by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "one porphyritic metavolcanic oby rills", on 3/22/2007 by N. Doose, W. Welsh, J. Huval, M. Werle, and	debitage located amongst T. Osuna.	dense creosote m	nounds separated
BCR Consulting was unable to re-identify the isolate during intensive p	edestrian field survey on	March 3, 2015.	

Primary # P-13-009589 **HRI#**

Trinomial

Page 1 of 1	*Resou	rce Name or # (Assigne	ed by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 201	15 ☐ Continuation	☑ Update
This site was originally recorded as "two buff ware pottery sherds situat W. Welsh, J. Huval, M. Werle, and T. Osuna.	ed on sandy alluvial	sediment", on 3/22/200	7 by N. Doose,
BCR Consulting was unable to re-identify the isolate during intensive pe	destrian field survey	on March 3 [,] 2015.	

Primary # P-13-013122 HRI#

Trinomial

Page 1 of 1	*Re	esourd	e Name or # (Ass	igned by	recorder)
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: April 7,	2015	☐ Continuation	I	Update
This isolate was originally recorded as "a weathered, porphyritic, black J. Huval, M. Werle, and T. Osuna. Additionally, "the flake is secondary	k, metavolcanic fl and is broken ac	lake", c cross its	on 3/22/2007 by N. s lateral axis."	Doose,	W. Welsh
BCR Consulting was unable to re-identify the isolate during intensive p	edestrian field su	ırvey o	n March 3, 2015.		

Primary # P-13-013123 **HRI#**

Trinomial

Page 1 of 1	*Resource	Name or # (Assign	ed by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "a weathered, medium brown Doose, W. Welsh, J. Huval, M. Werle, and T. Osuna. Additionally, "the indicated it was used for cooking."	color buffware ceramic sherd has fine paste,	body sherd", on 3 and is black on the	3/22/2007 by N. interior surface
BCR Consulting was unable to re-identify the isolate during intensive per	destrian field survey on	March 3, 2015.	

Primary # P-13-013124 **HRI#**

Trinomial

Page 1 of 1	*Resourc	e Name or # (Assign	ned by recorder):
*Recorded by: David Brunzell and Maximilian van Rensselaer	*Date: March 3, 2015	☐ Continuation	☑ Update
This isolate was originally recorded as "an edge modified flake, made o by N. Doose, W. Welsh, J. Huval, M. Werle, and T. Osuna. Additionally on one edge." The isolate is "located within a wash that is used for dump	"the utilized flake is w	vell-patinated with ur	al", on 3/22/2007 nifacial serrations
BCR Consulting was unable to re-identify the isolate during intensive pe	destrian field survey or	n March 3, 2015.	

Primary # P-13-013125 **HRI#**

Trinomial CA-IMP-11436

Page 1 of 1

*Resource Name or # (Assigned by recorder):

*Recorded by: David Brunzell and Maximilian van Rensselaer

***Date:** April 7, 2015 ☐ Continuation

☑ Update

This site was originally recorded as "a possible secondary deposit consisting of a lithic scatter", on 3/22/2007 by N. Doose, W. Welsh, J. Huval, M. Werle, and T. Osuna. Additionally, "lithics include obsidian, jasper, and petrified wood."

BCR Consulting re-identified the site during intensive pedestrian field survery on March 3, 2015. We found the same materials mixed with modern shotgun shells and non-diagnostic rusted cans. The deposit is located in a clearing created by an intersection of offroad vehicle tracks. This appears to be a secondary deposit accumulated during unauthorized collecting.



State of California — The Resources Agency **DEPARTMENT OF PARKS AND RECREATION**

PRIMARY RECORD

Primary # HRI# Trinomial

NRHP Status Code

*a. County: Imperial

Other Listings Review Code

Reviewer

Date

Page 1 of 4

*Resource Name or #: SEP1501-P-1

P1. Other Identifier:

*P2. Location: ☑ Not for Publication ☐ Unrestricted

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad: Plaster City **Date:** 1979

T 16S; R 12E, 11E; of Sec 7, 12; SB B.M. c. Address: N/A

d. UTM: Zone: 11; 614085 mE/ 3628859 mN (G.P.S.; NAD83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: -20 AMSL. The site is located approximately 50 meters north of highway S80, and approximately ½ mile west of the Westside Main Canal in the community of Plaster City, California.

*P3a. Description: (Describe resource and major elements: design, materials, condition, alterations, size, setting, and boundaries) This site consists of a low-density artifact scatter containing flaked stone artifacts, fire affected rock, two potsherds, and two fish bone fragments. The boundaries have been defined by the extent of the artifact scatter in addition to limits imposed by vegetation surrounding the site. The site appears to be in poor condition. It is located on a bench with an eastern aspect. Alterations to the site have resulted from sheetwashing and vegetation growth. The site is located in creosote scrub with some screwbean mesquite present.

*P3b. Resource Attributes: (List attributes and codes) AP2. Lithic scatter, AP3. Ceramic scatter

*P4. Resources Present: Building Structure Object ☑Site District Element of District Other



P5b. Description of Photo:

(View. date. accession #) Photo 4: Fire Affected Rock Detail (View North)

*P6. Date Constructed/Age: Historic ☑Prehistoric Both

*P7. Owner and Address: SEPV Imperial LLC 11726 San Vicente Blvd., #414 Los Angeles, California 90049

*P8. Recorded by:

David Brunzell and Max van Rensselaer **BCR Consulting LLC** 1420 Guadalajara Place, Claremont, CA 91711

*P9. Date Recorded: 3/3/15 *P10. Survey Type: Intensive *P11. Report Citation: Cultural Assessment Resources Archaeological Test Excavations of the SEPV Imperial LLC Solar Project. Imperial County, California. BCR Consulting.

*Attachments: NONE

✓ Location Map ☑Sketch Map Continuation Sheet Building, Structure, and Object Record Milling Station Record Rock Art Record ☑Archaeological Record District Record Linear Feature Record Artifact Record Photograph Record Other (List):

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION Primary # Trinomial

ARCHAEOLOGICAL SITE RECORD

Page 2 of 4 *Resour	ce Name or #: SEP1501-P-1
*A1. Dimensions: 15 x 15 meters	
Method of Measurement: Paced Taped Visual estimate ☑ Other: GPS Extrapolat	ion
Method of Determination (Check any that apply.): ☑ Artifacts Features Soil ☑ Vegetation Cut bank Animal burrow Excavation Property boundary Other (Explain):	on Topography
Reliability of Determination: High ☑ Medium Low Explain: Although weathering and location or presence of site components, site boundaries were determined by locations of artifactions.	
Limitations (Check any that apply): Restricted access Paved/built over Site limits inco ☐ Disturbances ☐ Vegetation Other (Explain):	ompletely defined
A2. Depth: ☑ None ☐ Unknown Method of Determination: Shovel Test Pits	
*A3. Human Remains: Present ☑ Absent Possible Unknown (Explain):	
*A4. Features (Number, briefly describe, indicate size, list associated cultural constituents, and show sketch map.): None	location of each feature on
*A5. Cultural Constituents (Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated 1: Andesite core Artifact 2: Andesite core reduction flake, Artifact 3: Ceramic potsherd, Artifact 5: fish rib, Artifact 6: fish rib.	
*A6. Were Specimens Collected? ☐ No ☑ Yes (If yes, attach Artifact Record or catalog and iden	ntify curation location.)
*A7. Site Condition: Good ☐ Fair ☑ Poor (Describe disturbances.): An on site drainage has and shovel testing did not yield any additional information including intact remains, notable soil change the surface, or site integrity.	
*A8. Nearest Water (Type, distance, and direction.): A west trending intermittent drainage bisects the	e property.
*A9. Elevation: 20 Feet Below Mean Sea Level	
A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, gaspect, exposure, etc.): Screwbean mesquite and creosote characterizes the native vegetation. Soil Site slope is variable with an aspect of 80-90 degrees.	
A11. Historical Information: None.	
*A12. Age: ☑ Prehistoric Protohistoric 1542-1769 1769-1848 1848-1880 1880- Post 1945 Undetermined	1914 1914-1945
A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations): subsurface archaeological deposits, and research potential of the site is likely exhausted.	Shovel Test Pits revealed no
A14. Remarks: The first site visit was conducted on March 3 soon after a rainstorm. During the subs failed to relocate fish bones.	equent visit on April 3, crews
A15. References (Documents, informants, maps, and other references): None.	
A16. Photographs (List subjects, direction of view, and accession numbers): See Primary sheet, page	e 1.
Original Media/Negatives Kept at: BCR Consulting	
*A17. Form Prepared by: David Brunzell	Date: April 6, 2015

DPR 523C (1/95) *Required information

Affiliation and Address: BCR Consulting 1420 Guadalajara Place, Claremont, CA 91711

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION SKETCH MAP

Site Boundary

Primary # HRI# Trinomial

*Resource Name or # (Assigned by Recorder): SEP1501-P-1

Page 3 of 4 *Date: April 6, 2015 Drawn By: Max van Rensselaer 10 12 **Sketch Map Elements** Datum (614085mE / 3628859mN) Fire Affected Rock Concentration Screwbean Mesquite Creosote Bush Intermittant Drainage 1.25 2.5 5 Shovel Test Pits (1-12) Meters Artifacts (A1-A6)

5

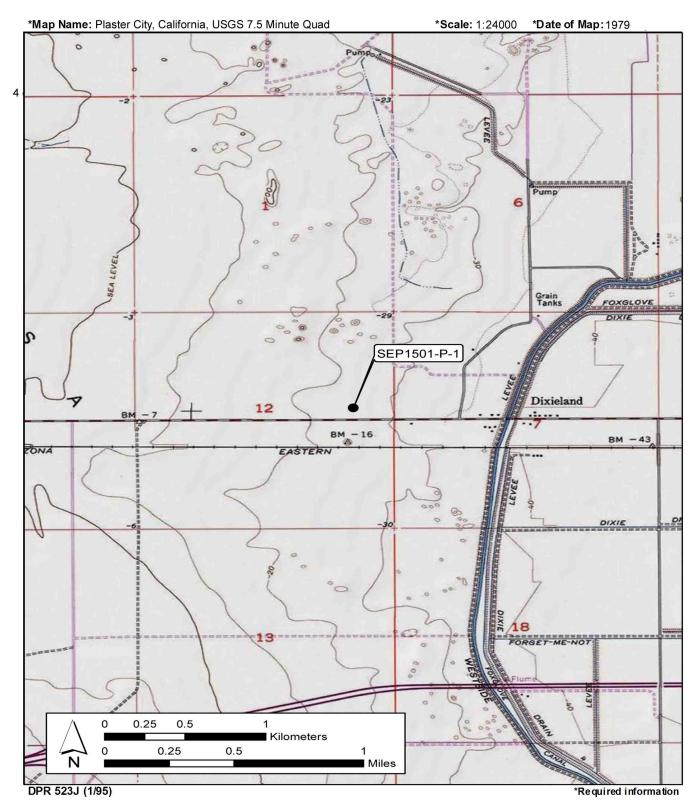
10

20

Feet

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION	Primary # HRI#
LOCATION MAP	Trinomial

Page 4 of 4 *Resource Name or#: SEP1501-P-1



APPENDIX B PALEONTOLOGICAL RESOURCES OVERVIEW



Natural History Museum of Los Angeles County 900 Exposition Boulevard Los Angeles, CA 90007

tel 213.763.DINO www.nhm.org

Vertebrate Paleontology Section Telephone: (213) 763-3325 Fax: (213) 746-7431 e-mail: smcleod@nhm.org

5 March 2015

BCR Consulting 1420 Guadalajara Place Claremont, CA 91711

Attn: David Brunzell, Principal Investigator / Archaeologist

re: Paleontological resources for the proposed Dixieland West and Dixieland East Solar Projects, near Dixieland, Imperial County, project area

Dear David:

I have conducted a thorough check of our paleontology collection records for the locality and specimen data for the proposed Dixieland West and Dixieland East Solar Projects, near Dixieland, Imperial County, project area as outlined on the portion of the Plaster City USGS topographic quadrangle map that you sent to me via e-mail on 25 February 2015. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have localities nearby from the same deposits that occur in the proposed project area.

Beneath soil, both sites of the proposed project area have surface lacustrine and fluvial [lake and stream channel] deposits of late Pleistocene or Holocene age [the latter less than 10,000 years before present] known as the Lake Cahuilla beds. We have several vertebrate fossil localities in these Lake Cahuilla beds, north-northwest of the project area northwest of the current Salton Sea (the remnant of the ancient Lake Cahuilla) and southwest of Coachella, including LACM 6252, 6253, and 6255. These localities produced a significant fauna of terrestrial and freshwater vertebrates (see attachment) as well as diatoms, land plants, clams, snails and crustaceans. A single jaw of the bighorn sheep *Ovis canadensis* was recovered from locality LACM 6256, nearby to the other localities listed above.

Even relatively shallow excavations in the Lake Cahuilla beds exposed in proposed project area may well encounter significant vertebrate fossil remains. Many of the fossil specimens collected from these latter deposits are small isolated elements of fossil organisms that were recovered from screen-washing sediment samples. Thus it is recommended that in addition to monitoring the excavations to collect any larger fossil remains uncovered, sediment samples be collected and processed to determine the small fossil potential at the proposed project site. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D. Vertebrate Paleontology

enclosures: attachment; invoice

Summel a. M. Leod

Vertebrate fossil taxa from the Lake Cahuilla Beds near Coachella based on specimens from localities LACM 6252-6253 and 6255

Osteichthyes

Cypriniformes

Catostomidae

Xyrauchen texanus razorback sucker

Cyprinidae

Gila elegans bonytail

Cyprinodon macularius desert pupfish

Reptilia

Squamata

Iguanidae

Phrynosomaplatyrhinosdesert horned lizardSceloporusmagisterdesert spiny lizard

Uma inornata Coachella Valley fringe-toed lizard

Urosaurus graciosus long-tailed brush lizard

Colubridae

Chionactis occipitalis western shovel-nosed snake

Hypsiglenatorquatanight snakePituophismelanoleucusgopher snake

Sonora semiannulata western ground snake

Crotalidae

Crotalus cerastes sidewinder rattlesnake

Aves

Passeriformes advanced land birds

Mammalia

Lagomorpha

Leporidae

Sylvilagus cottontail rabbit

Rodentia

Cricetidae

Neotoma lepida desert wood rat
Peromyscus white-footed mouse

Heteromyidae

Dipodomys kangaroo rat
Perognathus longimembris pocket mouse

Sciuridae

Ammospermophilus leucurus antelope ground squirrel

APPENDIX C NATIVE AMERICAN CORRESPONDENCE

Subject:	BCR Consulting Dixieland West and East SLF/List of Tribes Request, Imperial County, California
From:	David Brunzell (david.brunzell@yahoo.com)
То:	nahc@nahc.ca.gov;
Date:	Tuesday, February 24, 2015 1:02 PM

I'd like to request a Sacred Lands File search and list of potentially interested tribes for the proposed Dixieland Wes Projects located in Imperial County, California. The projects are located as follows*(SBBM; see also attached projects)

Dixieland West

Township 16 South Range 11 East Section 12

Dixieland East

Township 16 South Range 12 East Section 7

These two projects are adjacent; both are depicted on the USGS 7.5 Minute Topographic Quad: *Plaster City, Califoral* results and list (one list only) to my email or the below fax number and please get in touch with any questions.

Thanks,

David Brunzell
Principal Investigator/Archaeologist

BCR Consulting LLC

Certified Small Business (SB) 1420 Guadalajara Place Claremont, California 91711

Tel: 909-525-7078 Fax: 909-992-3065

www.bcrconsulting.net

*See report, Figure 1.

1 of 1 2/24/15, 1:04 PM

STATE OF CALIFORNIA

<u>Edmund G. Brown, Jr., Governor</u>

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Bivd., ROOM 100 West SACRAMENTO, CA 95691 (916) 373-3710 Fax (916) 373-5471



February 26, 2015

David Brunzell BCR Consulting LLC 1420 Guadalajara Place Claremont, California 91711

Sent by Fax: (909) 992-3065

Number of Pages: 2

Re: Proposed Dixieland West/East Projects, Imperial County.

Dear Mr. Brunzell,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

Katy Sanchez

Associate Government Program Analyst

Native American Contacts Imperial County February 26, 2015

La Posta Band of Mission Indians Gwendolyn Parada, Chairperson

8 Crestwood Road Diegueno/Kumeyaay

, CA 91905

LP13boots@aol.com

(619) 478-2113 (619) 478-2125

Boulevard

Manzanita Band of Mission Indians ATTN: Keith Adkins, EPA Director

P.O. Box 1302 Kumevaav

Boulevard CA 91905

(619) 766-4930

(619) 766-4957 Fax

Manzanita Band of Kurneyaay Nation Leroy J. Elliott, Chairperson

P.O. Box 1302 Diegueno/Kumeyaay Boulevard , CA 91905

ljbirdsinger@aol.com

(619) 766-4930

(619) 766-4957 Fax

Manzanita Band of the Kurneyaay Nation Nick Elliott, Cultural Resources Coordinator P.O. Box 1302

Kumeyaay

Boulevard CA 91905 nickmepa@yahoo.com

(619) 766-4930 (619) 925-0952 Cell (919) 766-4957 Fax

Campo Band of Mission Indians

Ralph Goff, Chairperson

36190 Church Road, Suite 1 Diegueno/Kumeyaay

Campo CA 91906 chairgoff@aol.com

(619) 478-9046

Inter-Tribal Cultural Resource Protection Council

Frank Brown, Coordinator

240 Brown Road

Diegueno/Kumeyaay

Diegueno/Kumeyaay

Alpine CA 91901 frbrown@viejas-nsn.gov

(619) 884-6437

(619) 478-5818 Fax

Kwaaymii Laguna Band of Mission Indians

Carmen Lucas

P.O. Box 775

Pine Valley , CA 91962

Diegueno-Kwaaymii

Kumeyaay

(619) 709-4207

Kumeyaay Cultural Repatriation Committee

Bernice Paipa, Vice Spokesperson

P.O. Box 937

Boulevard | - CA 91905

bernicepaipa@gmail.com

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting locative Americans with regard to cultural resources for the proposed Dixieland West/East Projects, Imperial County.

Native American Consultation Summary for the Dixieland East/West Project, Imperial County, California.

Native American Heritage Commission replied to BCR Consulting Request on February 26, 2015. Results of Sacred Land File Search did not indicate Native American cultural resources, and recommended that the below groups/individuals be contacted.

Groups Contacted	Letter/Email Date	Response from Tribes
Gwendolyn Parada, Chairperson	Letter: 3/2/15	3/11/15: Robert Bolger responded for La Posta to
La Posta Band of Mission Indians	Email: 3/2/15	ask about federal funding, to request to review
		results of archaeological investigations, to request
		a site visit, and to consult with the builder and CRM
		team to ensure preservation is carried out.
Keith Adkins, EPA Director	Letter: 3/2/15	None
Manzanita Band of Mission Indians	Email: None	
Leroy J. Elliott, Chairperson	Letter: 3/2/15	None
Manzanita Band of Kumeyaay Nation	Email: 3/2/15	
Nick Elliott, Cultural Resources Coordinator	Letter: 3/2/15	None
Manzanita Band of the Kumeyaay Nation	Email: 3/2/15	
Ralph Goff, Chairperson	Letter: 3/2/15	None
Campo Band of Mission Indians	Email: 3/2/15	
Frank Brown, Coordinator	Letter: 3/2/15	None
Inter-Tribal Cultural Resource Protection Council	Email: 3/2/15	
Carmen Lucas	Letter: 3/2/15	None
Kwaaymii Laguna Band of Mission Indians	Email: None	
Bernice Paipa, Vice Spokesperson	Letter: 3/2/15	None
Kumeyaay Cultural Repatriation Committee	Email: 3/2/15	



La Posta Band of Mission Indians Gwendolyn Parada, Chairperson 8 Crestwood Road Boulevard, CA 91905

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Ms. Parada:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

If you know of any cultural resources in the vicinity that may be of religious and/or cultural significance to your community or if you would like more information, please contact me at 909-525-7078 or david.brunzell@yahoo.com. Correspondence can also be sent to BCR Consulting, Attn: David Brunzell, 1420 Guadalajara Street, Claremont, California 91711. I request a response by April 3, 2015. If you require more time, please let me know. Thank you for your involvement in this process.

Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist

O- Held

On Wednesday, March 11, 2015 1:37 PM, Robert Bolger roberttbolger@gmail.com wrote:

Mr Brunzell,

Thanks for taking time out of your day to speak with me on the phone today regarding the Dixieland Project.

As a tribal organization whose cultural area of occupation included the western deserts of the Imperial Valley, we have some concerns regarding the project.

Firstly, could you make us aware of the various land juristictions the project impacts and whether or not Federal funding or tax incentives will be utilized?

Secondly, we would like to see all information available on the cultural resources within the project area including existing surveys/reports and anything found so far in ongoing archaeological investigation.

Thirdly, we would like to request a site visit (possibly multiple ones based on what is seen).

And lastly we would like to consult with the builder and CRM team to ensure cultural preservation is carried out as well as it possibly can be during all phases of the construction process.

Thanks again for your time,

Bobby Bolger, Assistant Cultural Resources
Director
La Posta Band of Mission Indians

3 of 3 4/8/15, 8:45 AM



Manzanita Band of Mission Indians ATTN: Keith Adkins, EPA Director P.O. Box 1302 Boulevard, CA 91905

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Mr. Adkins:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist



Manzanita Band of the Kumeyaay Nation Leroy J. Elliott, Chairperson P.O. Box 1302 Boulevard, CA 91905

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Mr. Elliott:

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist



Manzanita Band of the Kumeyaay Nation Nick Elliott, Cultural Resources Coordinator P.O. Box 1302 Boulevard, CA 91905

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist

O- Held



Campo Band of Mission Indians Ralph Goff, Chairperson 36190 Church Road, Suite 1 Campo, CA 91906

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Mr. Goff:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist



March 2, 2015

Inter-Tribal Cultural Resource Protection Council Frank Brown, Coordinator 240 Brown Road Alpine, CA 91901

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Mr. Brown:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist

Attachment: USGS Map



March 2, 2015

Kwaaymii Laguna Band of Mission Indians Carmen Lucas P.O. Box 775 Pine Valley, CA 91962

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Ms. Lucas:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist

O- Held

Attachment: USGS Map



March 2, 2015

Kumeyaay Cultural Repatriation Committee Bernice Paipa, Vice Spokesperson P.O. Box 937 Boulevard, CA 91905

Subject: Tribal Consultation for the Dixieland East/West Project, Imperial County

Dear Ms. Paipa:

This is an invitation to consult on a proposed development project at locations with which you have tribal cultural affiliation. The purpose of the consultation is to ensure the protection of Native American cultural resources on which the proposed undertaking may have an impact. In the tribal consultation process, early consultation is encouraged in order to provide for full and reasonable public input from Native American Groups and Individuals, as consulting parties, on potential effect of the development project and to avoid costly delays. Further, we understand that much of the content of the consultation will be confidential and will include, but not be limited to, the relationship of proposed project details to Native American Cultural Historic Properties such as burial sites, known or unknown, architectural features and artifacts, ceremonial sites, sacred shrines, and cultural landscapes. The proposed project is located within Section 12 of Township 16 South, Range 11 East, and Section 7 of Township 16 South, Range 12 East San Bernardino Baseline and Meridian. The property is depicted on the *Plaster City, California* (1979) 7.5-minute USGS topographic quadrangle (see attached map).

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Sincerely,

BCR Consulting LLC

David Brunzell, M.A./RPA

Principal Investigator/Archaeologist

O- Held

Attachment: USGS Map

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Sent To Ralph Goff Street & Apt. No., 1 or PO Box No. 36 (9) Church Rd, Suite 1 City, State, ZIP+4 (amps (A 91906) PS Form 3800, July 2014 See Reverse for Instructions	Street & Apt. No., or PO Box No. 240 Boxun Road City, State, ZIP+4 Alpme (A 91901 PS Form 3800, July 2014 See Reverse for Instructions

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Pine Valley CA

See Reverse for Instructions

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City, State, ZIP+4

Geotechnical Investigation Report

SEPV Dixieland East Solar Farm

Brown Road north of Evan Hewes Hwy Imperial County, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049





Prepared by:

Landmark Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 370-3000

June 2015



June 23, 2015

780 N. 4th Street El Centro, CA 92243 (760) 370-3000 (760) 337-8900 fax

77-948 Wildcat Drive Palm Desert, CA 92211 (760) 360-0665 (760) 360-0521 fax

Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

> Geotechnical Report SEPV Dixieland East Solar Farm Brown Road north of Evan Hewes Hwy Imperial County, California LCI Report No. LE15070

Dear Mr. Hall:

This geotechnical report is provided for design and construction of the proposed 2MW SEPV Dixieland East solar power generation facility located on both sides of Brown Road north of Evan Hewes Hwy in western Imperial County, California. Our geotechnical exploration was conducted in response to your request for our services. The enclosed report describes our soil engineering site evaluation and presents our professional opinions regarding geotechnical conditions at the site to be considered in the design and construction of the project.

This executive summary presents *selected* elements of our findings and professional opinions. This summary *may not* present all details needed for the proper application of our findings and professional opinions. Our findings, professional opinions, and application options are *best related through reading the full report*, and are best evaluated with the active participation of the engineer of record who developed them. The findings of this study are summarized below:

- Silty sand (SM) soils cover the project site to a depth of 4 to 6 feet. Silty clay (CL) and clay (CH) soils are encountered below the surficial sands.
- The risk of liquefaction induced settlement is low due to the lack of saturated granular subsurface soils.
- The upper silty sand soils are not aggressive to concrete. No special concrete mixes are required.
- Steel posts driven into the sands and lower clays may require corrosion protection.
- The sandy soils are suitable for onsite infiltration in stormwater basins.
- Pavement structural sections may be designed for silty sand subgrade soils (R-Value=40).

We did not encounter soil conditions that would preclude development of the proposed project provided the professional opinions contained in this report are considered in the design and construction of this project.

We appreciate the opportunity to provide our findings and professional opinions regarding geotechnical conditions at the site. If you have any questions or comments regarding our findings, please call our office at (760) 370-3000.

ENGINEERING

GEOLOGIST CEG 2261

No. 31921 EXPIRES 12-31-16

Landmark Consultants, Inc.

Respectfully Submitted,

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No. 73339 EXPIRES 12-31-16 OF CALLY

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Section 1

INTRODUCTION

1.1 Project Description

This report presents the findings of our geotechnical exploration and soil testing for the proposed 2MW SEPV Dixieland East solar power generation facility located on both sides of Brown Road north of Evan Hewes Hwy in western Imperial County, California (See Vicinity Map, Plate A-1).

The proposed project will consist of PV solar modules mounted on sun tracking structures supported by shallow driven steel posts. Also, the proposed solar energy facility will have ground mounted inverter stations and step-up transformers.

It is not anticipated that an operations and maintenance building or an electrical substation will be constructed for this project. Site development will include site grading, solar panel posts installation, underground power cable installation, and site fence construction.

1.2 Purpose and Scope of Work

The purpose of this geotechnical study was to investigate the subsurface soil at selected locations within the site for evaluation of physical/engineering properties and liquefaction potential during seismic events. Professional opinions were developed from field and laboratory test data and are provided in this report regarding geotechnical conditions at this site and the effect on design and construction. The scope of our services consisted of the following:

- Field exploration and in-situ testing of the site soils at selected locations and depths.
- Laboratory testing for physical and/or chemical properties of selected samples.
- Review of the available literature and publications pertaining to local geology, faulting, and seismicity.
- Engineering analysis and evaluation of the data collected.
- ▶ Preparation of this report presenting our findings and professional opinions regarding the geotechnical aspects of project design and construction.

This report addresses the following geotechnical parameters:

- ► Subsurface soil and groundwater conditions
- ► Site geology, regional faulting and seismicity, near source factors, and site seismic accelerations
- ► Liquefaction potential and its mitigation
- ► Expansive soil and methods of mitigation
- ► Aggressive soil conditions to metals and concrete

Professional opinions with regard to the above parameters are provided for the following:

- Site grading and earthwork
- ► Building pad and foundation subgrade preparation
- ► Allowable soil bearing pressures and expected settlements
- ► Concrete slabs-on-grade
- Excavation conditions and buried utility installations
- ► Mitigation of the potential effects of salt concentrations in native soil to concrete mixes and steel reinforcement
- Seismic design parameters
- ► Soil erosion plans
- ► Pavement structural sections

Our scope of work for this report did not include an evaluation of the site for the presence of environmentally hazardous materials or conditions, groundwater mounding, or landscape suitability of the soil.

1.3 Authorization

Mr. Michael Stern, COO of SEPV Imperial, LLC, provided authorization by written agreement to proceed with our work on April 24, 2015. We conducted our work according to our written proposal dated April 14, 2015.

Section 2

METHODS OF INVESTIGATION

2.1 Field Exploration

Subsurface exploration was performed on May 21 and 22, 2015 using 2R Drilling of Ontario, California to advance five (5) borings to depths of 16.5 to 51.5 feet below existing ground surface. The borings were advanced with a track-mounted, CME 75 drill rig using 8-inch diameter, hollow-stem, continuous-flight augers. The approximate boring locations were established in the field and plotted on the site map by sighting to discernible site features. The boring locations are shown on the Site and Exploration Plan (Plate A-2).

A staff engineer observed the drilling operations and maintained logs of the soil encountered with sampling depths. Soils were visually classified during drilling according to the Unified Soil Classification System and relatively undisturbed and bulk samples of the subsurface materials were obtained at selected intervals. The relatively undisturbed soil samples were retrieved using a 2-inch outside diameter (OD) split-spoon sampler or a 3-inch OD Modified California Split-Barrel (ring) sampler. In addition, Standard Penetration Tests (SPT) were performed in accordance with ASTM D1586. The samples were obtained by driving the samplers ahead of the auger tip at selected depths using a 140-pound CME automatic hammer with a 30-inch drop. The number of blows required to drive the samplers the last 12 inches of an 18-inch drive depth into the soil is recorded on the boring logs as "blows per foot". Blow counts (N values) reported on the boring logs represent the field blow counts. No corrections have been applied to the blow counts shown on the boring logs for effects of overburden pressure, automatic hammer drive energy, drill rod lengths, liners, and sampler diameter. Pocket penetrometer readings were also obtained to evaluate the stiffness of cohesive soils retrieved from sampler barrels.

After logging and sampling the soil, the exploratory borings were backfilled with the excavated material. The backfill was loosely placed and was not compacted to the requirements specified for engineered fill.

The subsurface logs are presented on Plates B-1 through B-5 in Appendix B. A key to the log symbols is presented on Plate B-6. The stratification lines shown on the subsurface logs represent the approximate boundaries between the various strata. However, the transition from one stratum to another may be gradual over some range of depth.

2.2 Laboratory Testing

Laboratory tests were conducted on selected bulk (auger cuttings) and relatively undisturbed soil samples obtained from the soil borings to aid in classification and evaluation of selected engineering properties of the site soils. The tests were conducted in general conformance to the procedures of the American Society for Testing and Materials (ASTM) or other standardized methods as referenced below. The laboratory testing program consisted of the following tests:

- Plasticity Index (ASTM D4318) used for soil classification and expansive soil design criteria
- ► Particle Size Analyses (ASTM D422) used for soil classification and liquefaction evaluation
- ► Unit Dry Densities (ASTM D2937) and Moisture Contents (ASTM D2216) used for insitu soil parameters
- Moisture-Density Relationship (ASTM D1557) used for soil compaction determinations.
- ► Direct Shear (ASTM D3080) used for soil strength determination
- ► Unconfined Compression (ASTM D2166) used for soil strength estimates.
- Chemical Analyses (soluble sulfates & chlorides, pH, and resistivity) (Caltrans Methods) used for concrete mix proportions and corrosion protection requirements.

The laboratory test results are presented on the subsurface logs (Appendix B) and on Plates C-1 through C-6 in Appendix C. Engineering parameters of soil strength, compressibility and relative density utilized for developing design criteria provided within this report were obtained from the field and laboratory testing program.

2.3 Thermal Resistivity Testing

Near surface soil samples (upper 5 feet) were obtained for laboratory thermal resistivity testing at one (1) location (Boring B-1) for grounding grid and buried electrical cable design parameters. The testing was conducted in accordance with ASTM D5334. The results of the thermal resistivity testing are presented in Appendix F.

Section 3 **DISCUSSION**

3.1 Site Conditions

The proposed 2MW SEPV Dixieland East solar power generation facility is located on both sides of Brown Road north of Evan Hewes Hwy in western Imperial County (APN 051-035-001, 051-035-002, 051-047-001, and 051-047-002). The 20-acre fenced-in project site is vacant, flat-lying with dry desert vegetation covering the site. The western portion of the site (west side of Brown Road) is vacant desert land. The eastern portion of the site (east side of Brown Road) is currently vacant land that had previously been used for farming/ranching. The eastern portion of the site is separated to the north and south by a concrete lined irrigation ditch that runs along an elevated embankment from the Westside Main Canal to the west side of the property. The area to the north of this ditch has old barbed wire and wood post fencing likely to have been used for livestock containment. The area south of the ditch has evidence of past agricultural use due to the pattern on the soil surface. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps feed a 12 inch diameter PVC pressurized water line that supplies water to the Imperial Lakes development (homes surrounding water-ski lakes) about a ½ mile to the west of the project site. The water line was exposed by backhoe trenches at four (4) locations as shown on Plate A-6 in Appendix A of this report.

Adjacent properties are flat-lying and are approximately at the same elevation with this site. Properties surrounding the project site consist of vacant desert land with rural lots and few remaining rural residences. The Centinela State prison is located approximately 2 miles north of the project site. A rural residence and empty Dixieland Townsite lots along Evan Hewes Highway are located to the south. The Imperial Irrigation District's (IID) Westside Main Canal (earthen) bounds the east side of the site and the IID Dixieland electrical substation and a rural private residence (mobile home) are located adjacent to the west side of the site.

The project site lies at an elevation of approximately 30 to 35 feet below mean sea level (MSL) (El. 965 to 970 local datum) in the Imperial Valley region of the California low desert. The surrounding properties lie on terrain which is flat (planar), part of a large agricultural valley, which was previously an ancient lake bed covered with fresh water to an elevation of $43\pm$ feet above MSL. Annual rainfall in this arid region is less than 3 inches per year with four months of average summertime temperatures above 100 °F. Winter temperatures are mild, seldom reaching freezing.

3.2 Geologic Setting

The project site is located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments deposited since the Miocene Epoch. Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity. Figure 1 shows the location of the site in relation to regional faults and physiographic features.

The Imperial Valley is directly underlain by lacustrine deposits, which consist of interbedded lenticular and tabular silt, sand, and clay. The Late Pleistocene to Holocene (present) lake deposits are probably less than 100 feet thick and derived from periodic flooding of the Colorado River which intermittently formed a fresh water lake (Lake Cahuilla). Older deposits consist of Miocene to Pleistocene non-marine and marine sediments deposited during intrusions of the Gulf of California. Basement rock consisting of Mesozoic granite and Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 - 20,000 feet.

3.3 Subsurface Soil

Subsurface soils encountered during the field exploration conducted on May 21 and 22, 2015 consist of about 5 feet of surficial silty sand (SM) overlying silty clay (CL) and clay (CH) soils. The subsurface logs (Plates B-1 through B-5) depict the stratigraphic relationships of the various soil types.

3.4 Groundwater

Groundwater was encountered in the Boring B-1 at about 44 feet and 16 feet in Boring B-3 during the time of exploration. There is uncertainty in the accuracy of short-term water level measurements, particularly in fine-grained soil. Groundwater levels may fluctuate with precipitation, irrigation of adjacent properties, drainage, and site grading.

3.5 Faulting

The project site is located in the seismically active Imperial Valley of southern California with numerous mapped faults of the San Andreas Fault System traversing the region. The San Andreas Fault System is comprised of the San Andreas, San Jacinto, and Elsinore Fault Zones in southern California. The Imperial fault represents a transition from the more continuous San Andreas fault to a more nearly echelon pattern characteristic of the faults under the Gulf of California (USGS 1990). We have performed a computer-aided search of known faults or seismic zones that lie within a 62 mile (100 kilometer) radius of the project site (Table 1).

A fault map illustrating known active faults relative to the site is presented on Figure 1, *Regional Fault Map*. Figure 2 shows the project site in relation to local faults. The criterion for fault classification adopted by the California Geological Survey defines Earthquake Fault Zones along active or potentially active faults. An active fault is one that has ruptured during Holocene time (roughly within the last 11,000 years). A fault that has ruptured during the last 1.8 million years (Quaternary time), but has not been proven by direct evidence to have not moved within Holocene time is considered to be potentially active. A fault that has not moved during Quaternary time is considered to be inactive. Review of the current Alquist-Priolo Earthquake Fault Zone maps (CGS, 2000a) indicates that the nearest mapped Earthquake Fault Zone is the Yuha Well fault located approximately 4.3 miles south of the project site. The Yuha Well fault was recently identified and zoned after the April 4, 2010 magnitude 7.2M_w El Mayor-Cucapah earthquake.

3.6 General Ground Motion Analysis

The project site is considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. Ground motions are dependent primarily on the earthquake magnitude and distance to the seismogenic (rupture) zone. Acceleration magnitudes also are dependent upon attenuation by rock and soil deposits, direction of rupture and type of fault; therefore, ground motions may vary considerably in the same general area.

Table 1
Summary of Characteristics of Closest Known Active Faults

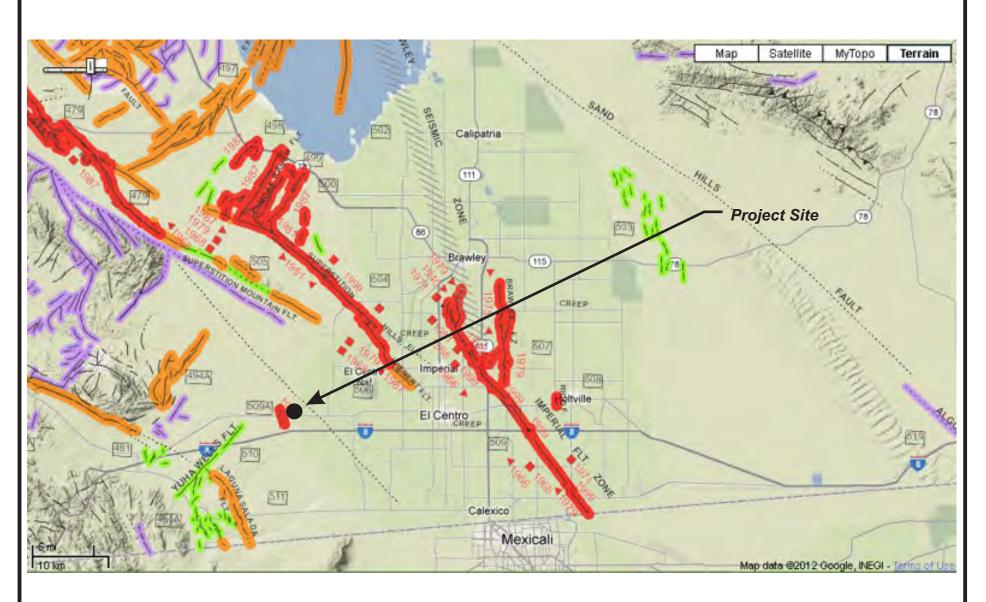
Fault Name	Approximate Distance (miles)	Approximate Distance (km)	Maximum Moment Magnitude (Mw)	Fault Length (km)	Slip Rate (mm/yr)
Yuha Well *	4.3	6.9			
Shell Beds	4.4	7.0			
Unnamed 1*	4.6	7.3			
Yuha*	5.8	9.2			
Vista de Anza*	7.4	11.9			
Laguna Salada	8.0	12.7	7	67 ± 7	3.5 ± 1.5
Superstition Mountain	8.0	12.7	6.6	24 ± 2	5 ± 3
Superstition Hills	8.7	14.0	6.6	23 ± 2	4 ± 2
Painted Gorge Wash*	9.3	14.9			
Unnamed 2*	9.4	15.1			
Ocotillo*	11.6	18.5			
Imperial	14.9	23.9	7	62 ± 6	20 ± 5
Elsinore - Coyote Mountain	15.0	24.0	6.8	39 ± 4	4 ± 2
Elmore Ranch	17.0	27.3	6.6	29 ± 3	1 ± 0.5
Brawley *	17.6	28.1			
Borrego (Mexico)*	17.7	28.3			
San Jacinto - Borrego	20.0	32.0	6.6	29 ± 3	4 ± 2
Rico *	21.6	34.5			
Pescadores (Mexico)*	25.7	41.1			
Cerro Prieto *	27.3	43.6			
Cucapah (Mexico)*	28.1	45.0			
San Jacinto - Anza	38.0	60.8	7.2	91 ± 9	12 ± 6

^{*} Note: Faults not included in CGS database.



Source: California Geological Survey 2010 Fault Activity Map of California http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#



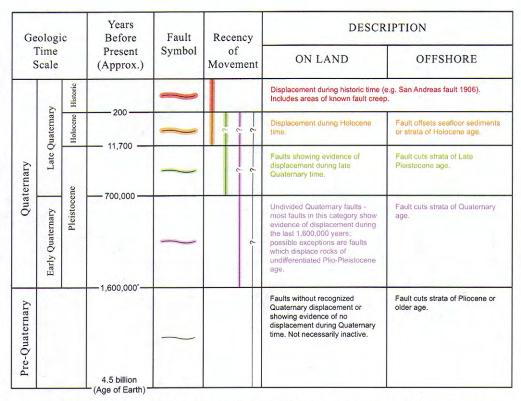


Source: California Geological Survey 2010 Fault Activity Map of California http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#



ADDITIONAL FAULT SYMBOLS

	Bar and ball on downthrown side (relative or apparent).
	Arrows along fault indicate relative or apparent direction of lateral movement.
	Arrow on fault indicates direction of dip.
→→ -2.	Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened. On offshore faults, barbs simply indicate a reverse fault regardless of steepness of dip.
	OTHER SYMBOLS
	Numbers refer to annotations listed in the appendices of the accompanying report. Annotations include fault name, age of fault displacement, and pertinent references including Earthquake Fault Zone maps where a fault has been zoned by the Alquist-Priolo Earthquake Fault Zoning Act. This Act requires the State Geologist to delineate zones to encompass faults with Holocene displacement.
	Structural discontinuity (offshore) separating differing Neogene structural domains. May indicate discontinuities between basement rocks.
	Brawley Seismic Zone, a linear zone of seismicity locally up to 10 km wide associated with the releasing step between the Imperial and San Andreas faults.



^{*} Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.



EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. Concealed faults in the Great Valley are based on maps of selected subsurface horizons, so locations shown are approximate and may indicate structural trend only. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE (Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

- (a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.
- (b) fault creep slippage slow ground displacement usually without accompanying earthquakes.
- (c) displaced survey lines.

A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

No triangle by date indicates an intermediate point along fault break.

Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.

Square on fault indicates where fault creep slippage has occured that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).

Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.



<u>CBC General Ground Motion Parameters:</u> The 2013 CBC general ground motion parameters are based on the Risk-Targeted Maximum Considered Earthquake (MCE_R). The U.S. Geological Survey "U.S. Seismic Design Maps Web Application" (USGS, 2014) was used to obtain the site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters. **The site soils have been classified as Site Class D (stiff soil profile).**

Design spectral response acceleration parameters are defined as the earthquake ground motions that are two-thirds (2/3) of the corresponding MCE_R ground motions. Design earthquake ground motion parameters are provided in Table 2. A Risk Category I was determined using Table 1604A.5 and the Seismic Design Category is D since S₁ is less than 0.75g.

The Maximum Considered Earthquake Geometric Mean (MCE_G) peak ground acceleration (PGA_M) value was determined from the "U.S. Seismic Design Maps Web Application" (USGS, 2015) for liquefaction and seismic settlement analysis in accordance with 2013 CBC Section 1803A.5.12 and CGS Note 48 (PGA_M = F_{PGA}*PGA). **A PGA_M value of 0.50g has been determined for the project site.**

3.7 Seismic and Other Hazards

- **Groundshaking.** The primary seismic hazard at the project site is the potential for strong groundshaking during earthquakes along the Imperial, Laguna Salada, and Superstition Hills faults.
- Surface Rupture. The California Geological Survey has established Earthquake Fault Zones in accordance with the 1972 Alquist-Priolo Earthquake Fault Zone Act. The Earthquake Fault Zones consists of boundary zones surrounding faults or fault segments determined to be sufficiently active, well-defined, and mappable for some distance. The project site does not lie within an A-P Earthquake Fault Zone; therefore, surface fault rupture is considered to be low at the project site.
- ► **Liquefaction.** Liquefaction is unlikely to be a potential hazard at the site due to the lack of saturated granular soil (clay soils predominate). The potential for liquefaction at the site is discussed in more detail in Section 3.8.

Table 2 2013 California Building Code (CBC) and ASCE 7-10 Seismic Parameters

CBC Reference Table 20.3-1

Soil Site Class: **D**Latitude: 32.7934 N

Latitude: 32.7934 N Longitude: -115.7729 W

Risk Category: I Seismic Design Category: D

Maximum Considered Earthquake (MCE) Ground Motion

Mapped MCE _R Short Period Spectral Response	S_s	1.500 g	Figure 1613.3.1((1)
Mapped MCE _R 1 second Spectral Response	$\mathbf{S_1}$	0.600 g	Figure 1613.3.1((2)
Short Period (0.2 s) Site Coefficient	$\mathbf{F_a}$	1.00	Table 1613.3.3(1	1)
Long Period (1.0 s) Site Coefficient	$\mathbf{F_v}$	1.50	Table 1613.3.3(2	2)
Spectral Pagnange Aggalaration Parameter (0.2 g)	C	1 500 ~	- E * C	Equation

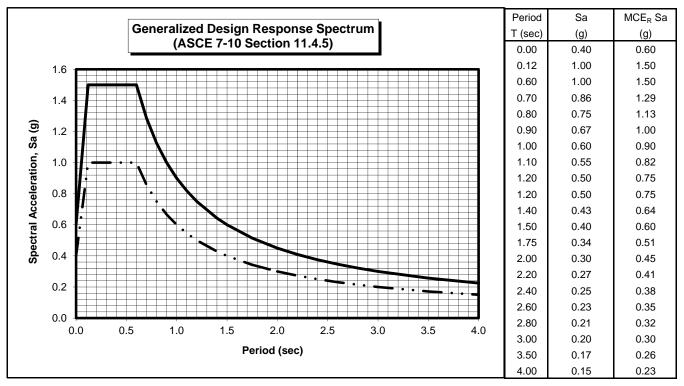
MCE_R Spectral Response Acceleration Parameter (0.2 s) S_{MS} 1.500 g = $F_a * S_s$ Equation 16-37 MCE_R Spectral Response Acceleration Parameter (1.0 s) S_{MI} 0.900 g = $F_v * S_1$ Equation 16-38

Design Earthquake Ground Motion

Design Spectral Response Acceleration Parameter (0.2 s)	S_{DS}	1.000 g	$=2/3*S_{\rm MS}$	Equation 16-39
Design Spectral Response Acceleration Parameter (1.0 s)	S_{D1}	0.600 g	$= 2/3 * S_{M1}$	Equation 16-40
	$\mathbf{T_L}$	8.00 sec		ASCE Figure 22-12
	T_{O}	0.12 sec	$=0.2*S_{D1}/S_{DS}$	

 T_{S} 0.60 sec = S_{D1}/S_{DS}

Peak Ground Acceleration **PGA_M** 0.50 g ASCE Equation 11.8-1



Design Response Spectra MCE_R Response Spectra

Other Potential Geologic Hazards.

- ► Landsliding. The hazard of landsliding is unlikely due to the regional planar topography. No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during our site investigation.
- Volcanic hazards. The site is not located in proximity to any known volcanically active area and the risk of volcanic hazards is considered very low.
- ► **Tsunamis and seiches.** The site is not located near any large bodies of water, so the threat of tsunami, seiches, or other seismically-induced flooding is unlikely.
- ► **Flooding.** The project site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual chance floodplain (FIRM Panel 06025C1675C).
- **Expansive soil.** The surficial 5 feet of soil consists of non-expansive silty sands.

3.8 Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:

- (1) the soil must be saturated (relatively shallow groundwater);
- (2) the soil must be loosely packed (low to medium relative density);
- (3) the soil must be relatively cohesionless (not clayey); and
- (4) groundshaking of sufficient intensity must occur to function as a trigger mechanism.

The clay soil encountered at the points of exploration at the project site is not considered to be susceptible to liquefaction due to the high fines content and cohesive nature of the soil deposits. A printout of the evaluation of the potential for liquefaction induced settlement is provided in Appendix D.

Section 4

DESIGN CRITERIA

4.1 Site Preparation

Clearing and Grubbing: There is moderate cover of scattered desert shrubs existing on the site. Additional, there are large tamarisk tree lines along the northern boundary of the site. Any surface improvements, debris or vegetation including brush, trees, and weeds on the site at the time of construction should be removed from the construction area. Root balls should be completely excavated. Organic strippings should be stockpiled and not used as engineered fill. All trash, construction debris, concrete slabs, old pavement, landfill, fences, and buried obstructions such as old foundations and utility lines exposed during rough grading should be traced to the limits of the foreign material by the grading contractor and removed under the supervision of the Geotechnical Engineer. Any excavations resulting from site clearing should be sloped to a bowl shape to the lowest depth of disturbance and backfilled under the observation of the geotechnical engineer's representative.

Mass Grading: For general site grading, the native soils shall be moisture conditioned to ±2% of optimum for sands, placed in maximum 8 inch lifts, and recompacted to a minimum of 90% of the maximum density determined in accordance with ASTM D1557 methods. Prior to placing any fills, 12 inches of the existing native soils shall be moisture conditioned to ±2% of optimum and compacted to a minimum of 90%. Due to the erodibility of the sand soils, permanent slopes shall not be steeper than 3H:1V without slope protection.

The rough grading plans indicate that there will be 1 foot deep stormwater basins covering a majority of the project site. A minimum access roadway width of 20 feet is provided between the stormwater basins and the perimeter of the site. The slopes and benches should be compacted to a minimum of 95% of ASTM D1557 maximum density at optimum moisture plus or minus 2%. The slope shall be over-built and trimmed such that the final slope face consists of a minimum of 18-inches of compacted soil.

<u>Trench Backfill:</u> The native granular soil is suitable for use as compacted fill and utility trench backfill. The native soil should be placed in maximum 8 inch lifts (loose) and compacted to a minimum of 90% of ASTM D1557 maximum dry density at optimum moisture ±2%.

Backfill soil of utility trenches within paved areas should be placed in layers not more than 6 inches in thickness and mechanically compacted to a minimum of 90% of the ASTM D1557 maximum dry density, except that the top 12 inches should be compacted to a minimum of 95%.

Observation and Density Testing: All site preparation and fill placement should be continuously observed and tested by a representative of a qualified geotechnical engineering firm. Full-time observation services during the excavation and scarification process is necessary to detect undesirable materials or conditions and soft areas that may be encountered in the construction area. The geotechnical firm that provides observation and testing during construction shall assume the responsibility of "geotechnical engineer of record" and, as such, shall perform additional tests and investigation as necessary to satisfy themselves as to the site conditions and the geotechnical parameters for site development.

4.2 Foundations and Settlements

Shallow spread footings or mat slabs are suitable to support the inverters and other small electrical equipment. Mat slabs shall be founded on a minimum of 18 inches of compacted native silty sands (90% minimum @ optimum moisture $\pm 2\%$). The foundations may be designed using an allowable soil bearing pressure of 2,000 psf for compacted sands. The allowable soil pressure may be increased by 20% for each foot of embedment depth in excess of 18 inches and by one-third for short term loads induced by winds or seismic events. The maximum basic allowable soil pressure at increased embedment depths shall not exceed 3,500 psf.

<u>Flat Plate Structural Mats</u>: Structural mats may be designed for a modulus of subgrade reaction (Ks) of 200 pci when placed on 1.5 feet of compacted native sand.

Resistance to horizontal loads will be developed by passive earth pressure on the sides of footings and frictional resistance developed along the bases of footings and concrete slabs. Passive resistance to lateral earth pressure may be calculated using an equivalent fluid pressure of 300 pcf (sands) to resist lateral loadings.

The top one foot of embedment should not be considered in computing passive resistance unless the adjacent area is confined by a slab or pavement. An allowable friction coefficient of 0.35 for sands may also be used at the base of the footings to resist lateral loading.

Foundation movement under the estimated static (non-seismic) loadings and static site conditions are estimated to not exceed 0.5 inch with differential movement of about two-thirds of total movement for the loading assumptions stated above when the subgrade preparation guidelines given above are followed. Seismically induced liquefaction settlement of the surrounding land mass and structure is not expected to occur at this project site.

4.3 Drilled Piers

Individual short piers should be adequate to support electrical inverter components and security camera post bases. Embedment depth for short piers to resist lateral loads where no-constraint is provided at ground surface may be designed using the following formula per 2013 CBC Section 1807.3.2.1:

$$d = A/2 [1 + (1+4.36h/A)^{1/2}]$$
 (Equation 18-1)

where:

 $A = 2.34P/S_1b$

b = Pier diameter in feet

d = Embedment depth in feet (but not over 12 feet for purpose of computing lateral pressure)

h = Distance in feet from ground surface to point of application of "P"

P = Applied lateral force in pounds

S₁ = Allowable lateral soil bearing pressure (basic value of 150 psf/f (see 2007 CBC Table 1804.2). Isolated piers such solar panel short piers that are not adversely affected by a 0.5 inch motion at the ground surface due to short-term lateral loads are permitted to be designed using lateral soil bearing pressures equal to two times the basic soil bearing value. Security camera post piers should not use increased soil bearing values in order to provide greater resistance to wind load vibrations.

The short pier foundations may be designed using an allowable soil bearing pressure of 1,500 psf for the native soils.

4.4 Driven Steel Posts

The use of driven steel posts requires special provisions for corrosion protection due to the corrosive nature of the subsurface soils. Steel posts for single-axis tracker PV panel mounting frames have been preliminary sized as W6x9 and W6x15. The specified tip elevation (6, 8 and 10 feet) and design load for typical driven steel W-pile shapes are provided in Table 4 and 5. Axial and lateral loads were applied at 4 feet above ground surface. Driving conditions may be determined by the SPT Blow Counts shown on the Boring logs.

Load capacities and deflections for the selected PV posts are provided in Tables 3 and 4.

Table No. 3 Allowable Capacities of Driven Steel Posts (W6x9)

Pile Type	W6x9	W6x9	W6X9
Pile Length (ft):	10	12	14
Specified Tip Depth (ft):	6	8	10
Height Above Ground (ft):	4	4	4
Allowable Axial Capacity (kips) – FS=2.5:	2.40	4.32	6.30
Allowable Uplift Capacity (kips) – FS=2.5:	2.20	4.20	6.18
Lateral Load – Free Head Condition (kips):	0.52	0.72	0.72
Top Deflection (in) – Free Head Condition:	0.50	0.50	0.50
Maximum Moment from Lateral Load,	2.70	4.00	4.00
Free Head Condition (ft-kips):	2.78	4.00	4.00
Depth of Maximum Moment	<i>5</i> 0	()	()
(from Top of Post), Free Head (ft):	5.8	6.3	6.3

Table No. 4 Allowable Canacities of Driven Steel Posts (W6v15)

Allowable Capacities of Driven Steel Posts (W6x15)						
Pile Type	W6x15	W6x15	W6X15			
Pile Length (ft):	10	12	14			
Specified Tip Depth (ft):	6	8	10			
Height Above Ground (ft):	4	4	4			
Allowable Axial Capacity (kips) – FS=2.5:	2.73	4.98	7.23			
Allowable Uplift Capacity (kips) – FS=2.5:	2.61	4.89	7.18			
Lateral Load – Free Head Condition (kips):	0.62	1.04	1.06			
Top Deflection (in) – Free Head Condition:	0.50	0.50	0.50			
Maximum Moment from Lateral Load,						
Free Head Condition (ft-kips):	3.22	5.82	5.95			
Depth of Maximum Moment	5 0	<i>c.</i> =	<i>c.</i> =			
(from Top of Post), Free Head (ft):	5.8	6.5	6.5			

Recommendations for other steel shapes and sizes can be made available upon request.

Point bearing and skin friction parameters were used to determine the allowable vertical shaft capacity. The allowable vertical capacities include a factor of safety of 2.5. The allowable vertical capacities may be increased by 33 percent to accommodate temporary loads derived from wind or seismic forces. The allowable vertical shaft capacities are based on the supporting capacity of the soil.

<u>Lateral Capacity</u>: The allowable lateral load was assumed to be applied at the top of the pile. The allowable horizontal deflection at the shaft head has been assumed to be one-half inch (0.50 inch).

<u>Settlement:</u> Total settlements of less than ½ inch, and differential movement of about two-thirds of total movement for single poles designed according to the preceding design criteria. If post spacing is at least 2.5 diameters center-to-center, no reduction in axial load capacity is considered necessary for a group effect.

<u>Soil Parameters</u>: Interpretive soil parameters of the subsoil for L-Pile program are presented in the table below.

Layer Type	Depth (ft)	Unit Weight (pcf)	Friction Angle (deg)	Cohesion (ksf)	Strain Factor, E50 o Dr (%)	Lateral Soil Modulus, k (pci)
SM	0 to 4	115	28°	0.30	50	50
CL-CH	4 to 20	125		1.50	0.75	450

Table 5: Soil Strength Parameters for L-Pile Program

4.5 Concrete Mixes and Corrosivity

Selected chemical analyses for corrosivity were conducted on bulk samples of the near surface soil from the project site (Plate C-6). The native soils were found to have low levels of sulfate ion concentration (165 to 935 ppm). The following table provides recommended cement types, water-cement ratio and minimum compressive strengths:

Table 6. Concrete Mix Design Criteria due to Soluble Sulfate Exposure

Sulfate Exposure	Water-soluble Sulfate (SO ₄) in soil, ppm	Cement Type	Maximum Water- Cement Ratio by weight	Minimum Strength f'c (psi)
Negligible	0-1,000	_	_	_
Moderate	1,000-2,000	II	0.50	4,000
Severe	2,000-20,000	V	0.45	4,500
Very Severe	Over 20,000	V (plus Pozzolon)	0.45	4,500

Note: from ACI 318-11 Table 4.2.1

The native soil has low to severe levels of chloride ion concentration (130 to 730 ppm). Chloride ions can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electrochemical corrosion processes.

Foundation designs shall provide a minimum concrete cover of three (3) inches around steel reinforcing or embedded components (anchor bolts, etc.) exposed to native soil. If the 3-inch concrete edge distance cannot be achieved, all embedded steel components (anchor bolts, etc.) shall be epoxy coated for corrosion protection (in accordance with ASTM D3963/A934) or a corrosion inhibitor and a permanent waterproofing membrane shall be placed along the exterior face of the exterior footings. Additionally, the concrete should be thoroughly vibrated at footings during placement to decrease the permeability of the concrete.

4.6 Excavations

All site excavations should conform to CalOSHA requirements for Type C soil to the clay layer and Type B soil in the clays. The contractor is solely responsible for the safety of workers entering trenches. Temporary excavations with depths of 4 feet or less may be no steeper than 1:1 (horizontal:vertical). Sandy soil slopes should be kept moist, but not saturated, to reduce the potential of raveling or sloughing. Excavations will require slope inclinations in conformance to CAL/OSHA regulations for Type C soil.

Surcharge loads of stockpiled soil or construction materials should be set back from the top of the slope a minimum distance equal to the height of the slope. All permanent slopes should not be steeper than 3:1 to reduce wind and rain erosion. Protected slopes with ground cover may be as steep as 2:1. However, maintenance with motorized equipment may not be possible at this inclination.

4.7 Seismic Design

This site is located in the seismically active southern California area and the site structures are subject to strong ground shaking due to potential fault movements along the Brawley, Superstition Hills, and Imperial Faults. Engineered design and earthquake-resistant construction are the common solutions to increase safety and development of seismic areas. Designs should comply with the latest edition of the CBC for Site Class D using the seismic coefficients given in Section 3.6 and Table 2 of this report.

4.8 Soil Erosion Factors for SWPPP Plans

The site soils are classified as silty sands with greater than 80% sand fraction soil particles (82% sand, 11% silt, and 7% clay). Groundwater is not expected at depths less than 15 feet below ground surface.

4.9 Pavements

Pavements should be designed according to CALTRANS or other acceptable methods. Traffic indices were not provided by the project engineer or owner; therefore, we have provided structural sections for several traffic indices for comparative evaluation. The public agency or design engineer should decide the appropriate traffic index for the site. Maintenance of proper drainage is necessary to prolong the service life of the pavements.

Based on the current State of California CALTRANS method, an estimated R-value of 40 for the subgrade soil and assumed traffic indices, the following table provides our estimates for asphaltic concrete (AC) and Portland Cement Concrete (PCC) pavement sections.

Table 7. Pavement Structural Sections

R-Value of Subgrade Soil - 40 (estimated)

Design Method - CALTRANS 2006

Flexible Pavements			Rigid (PCC) Pavements		
Traffic Index (assumed)	Asphaltic Concrete Thickness (in.)	Aggregate Base Thickness (in.)	Concrete Thickness (in.)	Aggregate Base Thickness (in.)	
4.0	3.0	4.0	5.0	4.0	
5.0	3.0	4.0	5.0	4.0	
6.0	3.0	6.0	6.0	6.0	
6.5	4.0	8.0	7.0	6.0	
8.0	4.0	10.0	8.0	8.0	

Notes:

- Asphaltic concrete shall be Caltrans, Type B, ¾ inch maximum (½ inch maximum for parking areas), medium grading with PG70-10 asphalt cement, compacted to a minimum of 95% of the Hveem density (CAL 366).
- 2) Aggregate base shall conform to Caltrans Class 2 (¾ in. maximum), compacted to a minimum of 95% of ASTM D1557 maximum dry density.
- Place pavements on 12 inches of moisture conditioned (±2% of optimum) native soil compacted to a minimum of 95% of the maximum dry density determined by ASTM D1557.
- 4) Portland cement concrete for pavements should have Type V cement, a minimum compressive strength of 4,500 psi at 28 days, and a maximum water-cement ratio of 0.45.
- 5) Typical Street Classifications (Imperial County)

Parking Areas: TI = 4.0Cul-de-Sacs: TI = 5.0Local Streets: TI = 6.0Minor Collectors: TI = 6.5Major Collectors: TI = 8.0 Section 5

LIMITATIONS AND ADDITIONAL SERVICES

5.1 Limitations

The findings and professional opinions within this report are based on current information regarding the proposed 2MW SEPV Dixieland East solar power generation facility located on both sides of Brown Road north of Evan Hewes Hwy in western Imperial County, California. The conclusions and professional opinions of this report are invalid if:

- ► Structural loads change from those stated or the structures are relocated.
- ► The Additional Services section of this report is not followed.
- ► This report is used for adjacent or other property.
- ► Changes of grade or groundwater occur between the issuance of this report and construction other than those anticipated in this report.
- ► Any other change that materially alters the project from that proposed at the time this report was prepared.

Findings and professional opinions in this report are based on selected points of field exploration, geologic literature, laboratory testing, and our understanding of the proposed project. Our analysis of data and professional opinions presented herein are based on the assumption that soil conditions do not vary significantly from those found at specific exploratory locations. Variations in soil conditions can exist between and beyond the exploration points or groundwater elevations may change. If detected, these conditions may require additional studies, consultation, and possible design revisions.

This report contains information that may be useful in the preparation of contract specifications. However, the report is not worded is such a manner that we recommend its use as a construction specification document without proper modification. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

This report was prepared according to the generally accepted *geotechnical engineering standards* of practice that existed in Imperial County at the time the report was prepared. No express or implied warranties are made in connection with our services.

This report should be considered invalid for periods after two years from the report date without a review of the validity of the findings and professional opinions by our firm, because of potential changes in the Geotechnical Engineering Standards of Practice.

The client has responsibility to see that all parties to the project including, designer, contractor, and subcontractor are made aware of this entire report. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

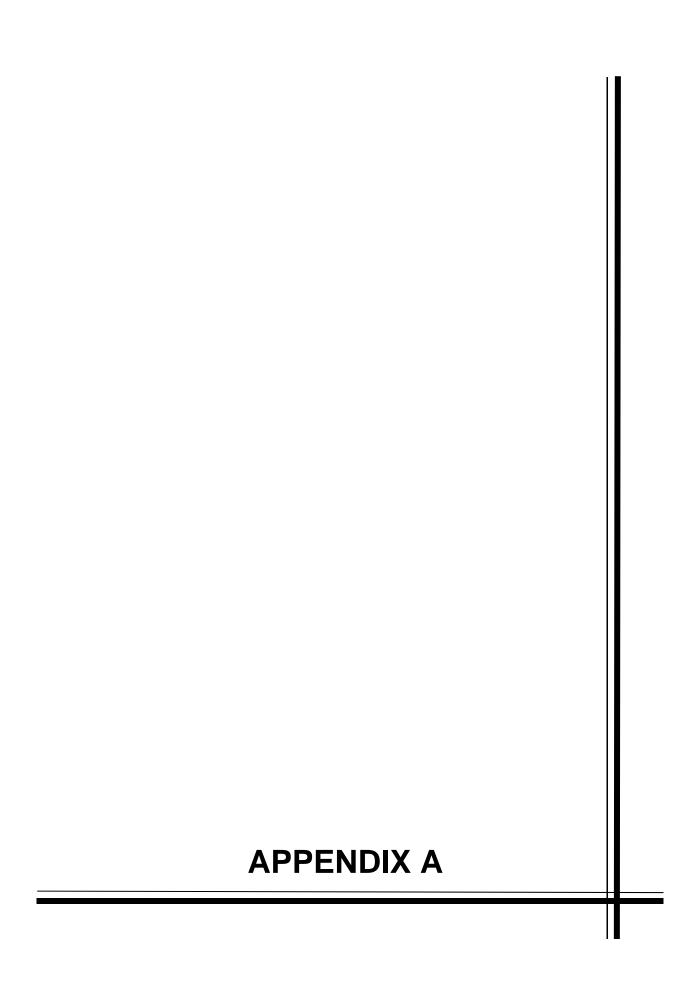
5.2 Additional Services

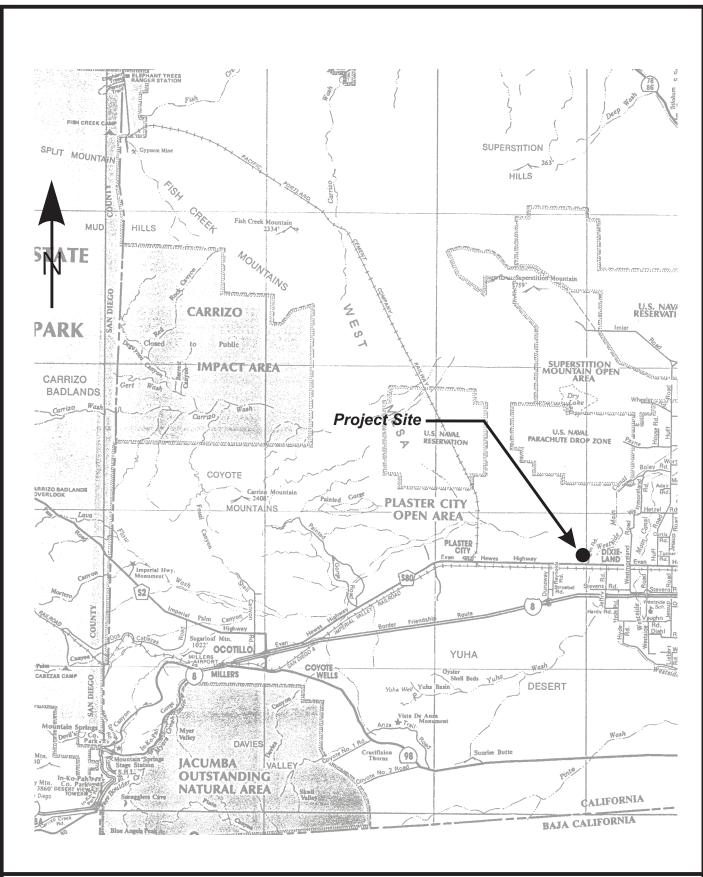
We recommend that a qualified geotechnical consultant be retained to provide the tests and observations services during construction. The geotechnical engineering firm providing such tests and observations shall become the geotechnical engineer of record and assume responsibility for the project.

The professional opinions presented in this report are based on the assumption that:

- Consultation during development of design and construction documents to check that the geotechnical professional opinions are appropriate for the proposed project and that the geotechnical professional opinions are properly interpreted and incorporated into the documents.
- Landmark Consultants will have the opportunity to review and comment on the plans and specifications for the project prior to the issuance of such for bidding.
- ► Observation, inspection, and testing by the geotechnical consultant of record during site clearing, grading, excavation, placement of fills, building pad and subgrade preparation, and backfilling of utility trenches.
- Observation of foundation excavations and reinforcing steel before concrete placement.
- Other consultation as necessary during design and construction.

We emphasize our review of the project plans and specifications to check for compatibility with our professional opinions and conclusions. Additional information concerning the scope and cost of these services can be obtained from our office.

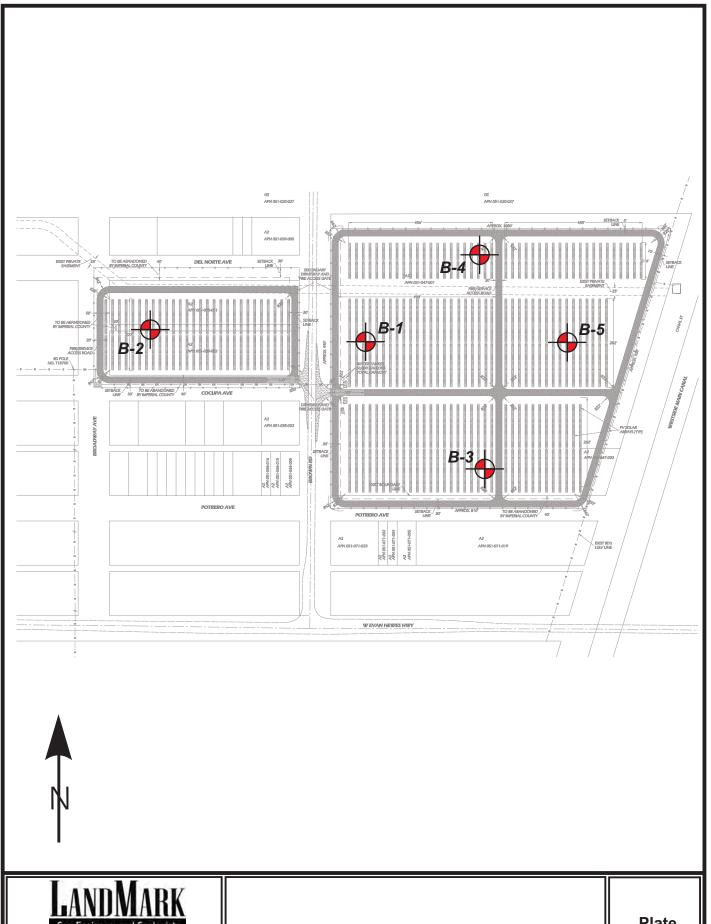




LANDMARK
Geo-Engineers and Geologists

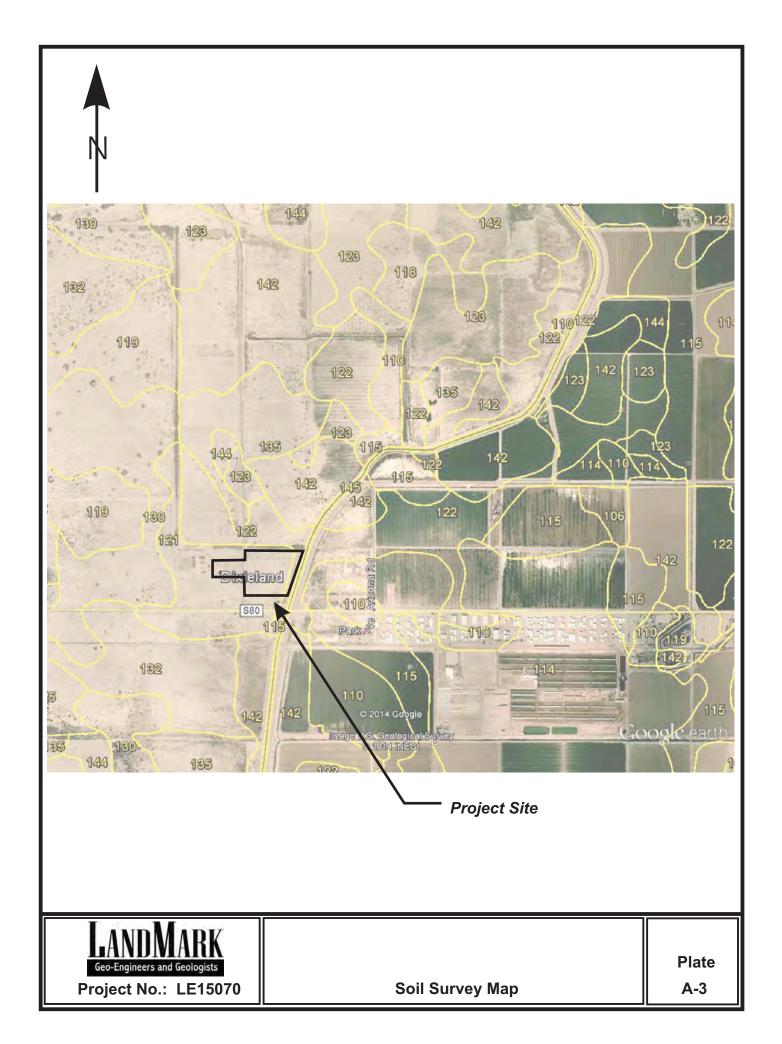
Project No.: LE15070

Vicinity Map



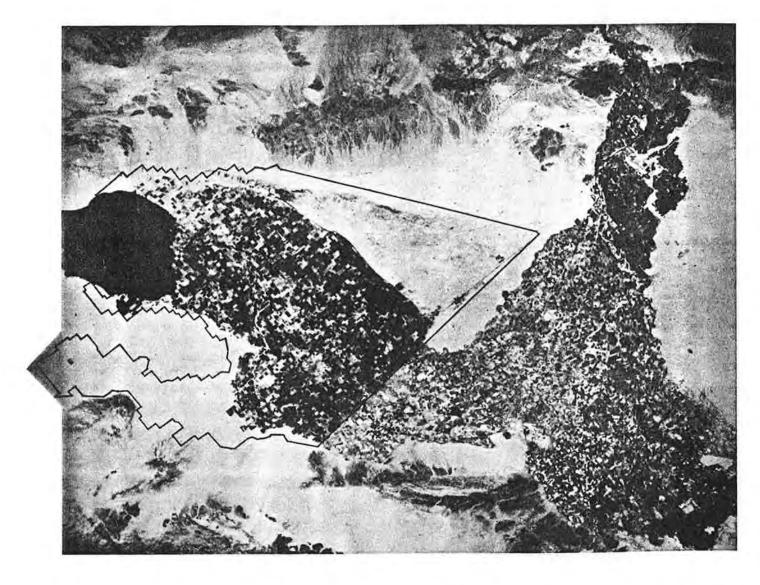
Geo-Engineers and Geologists Project No.: LE15070

Boring Location Map



Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and
Imperial Irrigation District

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and	Depth	USDA texture		ication 	Frag- ments	P	ercenta sieve	ge pass number-		 Liquid	Plas-
map symbol			Unified	AASHTO	> 3 inches	4	10	40	200	limit	ticity index
	<u>In</u>				Pct					Pot	
100 Antho		Loamy fine sand Sandy loam, fine sandy loam.	SM SM	A-2, A-2, A-4	0	100 9 0-1 00		75-85 50-60	10-30 15-40	===	N P N P
101*: Antho		Loamy fine sand Sandy loam, fine sandy loam.		A-2 A-2, A-4	0		100 75 - 95		10 - 30 15-40	==	NP NP
Superstition		Fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0		95 - 100 95 - 100			=	NP NP
102*. Badland											
103 Carsitas	0-10	Gravelly sand Gravelly sand, gravelly coarse sand, sand.	ISP, SP⊸SM	A-1, A-2 A-1	0-5 0-5	60 - 90 60 - 90	50-85 50-85	30 - 55 25 - 50	0-10 0-10	=	NP NP
104 * Fluvaquents											
105 Glenbar	113-60	Clay loam Clay loam, silty clay loam.	CL CL	A-6 A-6	0	100 100		90-100 90-100		35-45 35-45	15 - 30 15 - 30
106 Glenbar	113-60	Clay loam Clay loam, silty clay loam.		A-6, A-7 A-6, A-7		100		90-100 90-100		35-45 35-45	15-25 15-25
107* Glenbar	0-13	Loam	ML, CL-ML, CL	A-4	0	100	100	100	70-80	20-30	NP-10
		Clay loam, silty clay loam.		A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
108 Holtville	14-22 22-60	Loam	CL, CH	A – 4 A – 7 A – 4	0 0 0	100 100 100		85-100 95-100 95-100	85-95		NP-10 20-35 NP-10
	17-24 124-35	Clay, silty clay Silt loam, very fine sandy	CL, CH	A-7 A-7 A-4	0 0 0			95-100 95-100 95-100	85-95	40-65	20-35 20-35 NP-10
		loam. Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55		ΝP
110 Holtville	17-24 24-35	Silty clay Clay, silty clay Silt loam, very fine sandy	CH, CL	A-7 A-7 A-4	0 0 0	100 100 100	100	95-100 95-100 95-100	185-95	40-65 40-65 25-35	20-35 20-35 NP-10
		loam. Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75 - 100	20-55		NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and	Depth	USDA texture	Classif	7 82 77	Frag- ments		rcentag sieve n			Liquid	Plas-
map symbol			Unified		> 3 inches	4	10	40	200	limit	ticity index
	In				Pet					Pot	
	10-22 22-60	Silty clay loam Clay, silty clay Silt loam, very fine sandy loam.	CL, CH	A-7 A-7 A-4	0 0	100 100 100	100	95-100 95-100 95-100	85-95	40-65 40-65 25-35	20-35 20-35 NP-10
Imperial	112-60	Silty clay loam Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		85 - 95 85 - 95		10-20 25-45
112Imperial	12-60	Silty clay Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		85-95 85-95	50-70 50-70	25-45 25-45
113Imperial	12 - 60 	Silty clay Silty clay, clay, silty clay loam.	СН СН	A-7 A-7	0	100 100	100 100		85 - 95 85 - 95	50-70 50-70	25-45 25-45
114Imperial	12-60 	Silty clay Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		85-95 85-95	50-70 50-70	25-45 25-45
115*: Imperial	12-60	Silty clay loam Silty clay loam, silty clay, clay.	CL CH	A-7 A-7	0	100 100	100		 85 - 95 85 - 95	40-50 50-70	10-20 25-45
Glenbar				A-6, A-7		100 100		90-100 90-100		,	15-25 15-25
116*: Imperial	0-13 13-60	Silty clay loam Silty clay loam, silty clay, clay.	CL CH	A-7 A-7	0 0	100 100	100 100		85-95 85-95		10-20 25-45
Glenbar		Silty clay loam Clay loam, silty clay loam.		A-6, A-7	0	100		90-100 90-100			15-25 15-30
117, 118 Indio	0-12 12-72	Loam	ML ML	A – 4 A – 4	0	95-100 95-100	95-100 95-100	85-100 85-100	75-90 75-90	20-30 20-30	NP-5 NP-5
119*: Indio		Loam Stratified loamy very fine sand to silt loam.	IML	A – 4 A – 4	0	95-100 95-100				20-30 20-30	NP-5 NP-5
Vint		Loamy fine sand Loamy sand, loamy fine sand.	SM SM	A-2 A-2	0	95-100 95-100			25-35 20-30	==	NP NP
120* Laveen	0-12	Loam Loam, very fine sandy loam.	ML, CL-MI	A - 4 A - 4	0	100 95-100	95-100 85-95	75-85 70-80	55-65 55-65	20-30 15-25	NP-10 NP-10

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

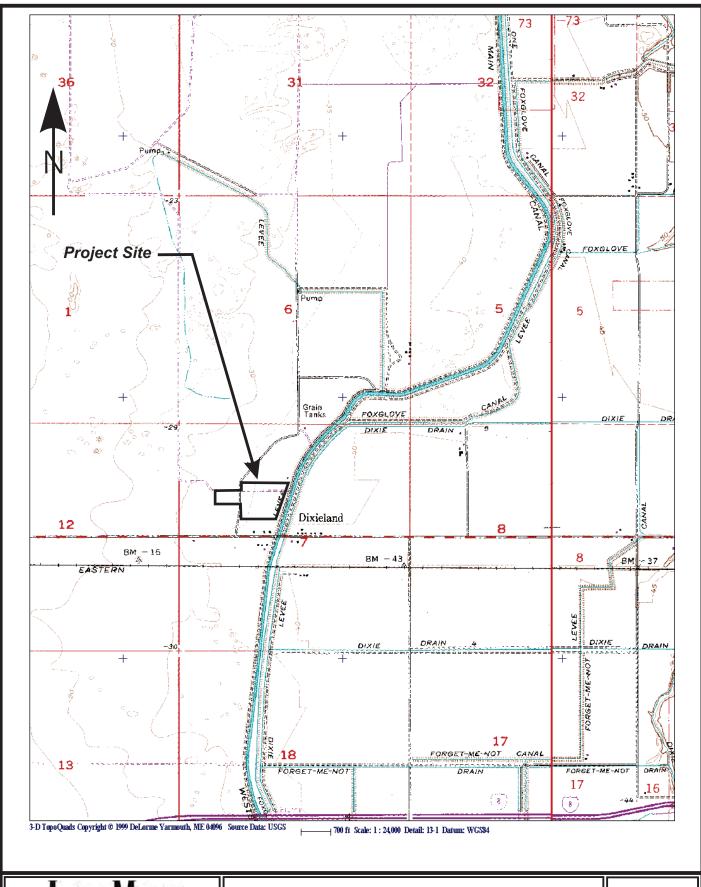
Soil name and	Depth	USDA texture	C1	assif	catio		Frag- ments	Pe	ercentag sieve r	ge passi number		Liquid	Plas-
map symbol	Sopon	55211 5311541. 5	Uni	fied	AASI		> 3 inches	4	10	40	200	limit	ticity index
	In						Pct					Pot	
121 Meloland	0-12	Fine sand Stratified loamy fine sand to	SM, ML	SP-SM	A-2, A-4	A-3	0	95 - 100		75-100 90-100		25 - 35	NP NP-10
	26-71	silt loam. Clay, silty clay, silty clay loam.	CL,	СН	A-7		0	100	100	95-100	85-95	40-65	20-40
122	0-12	Very fine sandy	ML		A-4		0	95-100	95-100	95⊸100	55-85	25 - 35	NP-10
Meloland	1 1	loam. Stratified loamy fine sand to	ML		A-4		0	100	100	90-100	50 - 70	25-35	NP-10
	26-71	silt loam. Clay, silty clay, silty clay loam.	СН,	CL	A-7		0	100	100	95-100	85 - 95	40-65	20-40
123*: Meloland	0 -12	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	! ! мт		A-4		0	 95-100	95-100	95-100	 55 - 85	25-35	NP-10
Meloland	112-26	Stratified loamy fine sand to silt loam.	ML		A-4		0				50-70		NP-10
	26-38		сн,	CL	A-7		0	100	100	95-100	85-95	40-65	20-40
	38-60	Stratified silt loam to loamy fine sand.	SM,	ML	A-4		0	100	100	75-100	35-55	25 - 35	NP-10
Holtville	12-24 24-36	Loam Clay, silty clay Silt loam, very fine sandy	CH,	CL	A-4 A-7 A-4		0 0	100 100 100	100	85-100 195-100 195-100	185-95	25-35 40-65 25-35	NP-10 20-35 NP-10
		loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A = 4	0	100	100	75-100	20-55		NР
124, 125 Niland	0-23	Gravelly sand Silty clay, clay, clay loam.	SM, CL,	SP-SM CH	A-2, A-7	A-3	0		70 - 95 100	50-65 85-100		40 - 65	NP 20-40
126Niland	0-23 23-60	Fine sand Silty clay	SM, CL,	SP-SM CH	A-2, A-7	A - 3	0		90-100			40-65	NP 20-40
127Niland	0-23 23-60	Loamy fine sand Silty clay	SM CL,	СН	A-2 A-7		0	100	90-100 100	50 - 65 85 - 100		40-65	NP 20-40
128*: Niland		Gravelly sand Silty clay, clay, clay loam.	SM, CL,	SP-SM CH	A-2, A-7	A - 3	0	90-100	170-95 100		5 - 25 80 - 100	40-65	NP 20-40
Imperial	0-12 12-60	Silty clay Silty clay loam, silty clay, clay.	CH		A-7 A-7		0	100 100	100	100 100	85 - 95 85 - 95	50 - 70 50 - 70	25-45 25-45
129*: Pits										1			1
130, 131 Rositas	- 0-27	Sand	SP-	SM	A-3, A-1	,	0	100	80-100	40-70	5-15		NP
	27-60	Sand, fine sand, loamy sand.	SM,	SP-SM		2,	0	100	80-100	40-85	5-30		NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

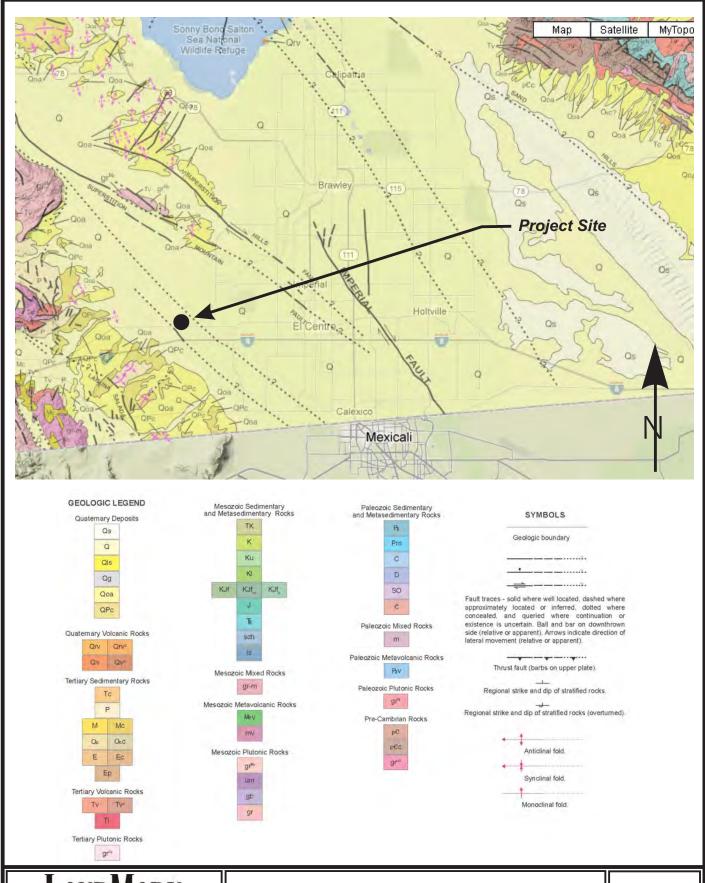
Soil name and	Depth	USDA texture	Classif	ication	Frag- ments	P	ercenta sieve	ge pass number-		Liquid	Plas-
map symbol			Unified	AASHTO	> 3 inches	4	10	40	200	limit	ticit
	In	1			Pet					Pet	
132, 133, 134, 135- Rositas	0-9	Fine sand	SM	A-3,	0	100	80-100	50-80	10-25		NP
1031083	9-60	Sand, fine sand, loamy sand.	0	*	0	100	80-100	40-85	5-30		NP
136 Rositas	0-4 4-60	Loamy fine sand Sand, fine sand, loamy sand.	ISM, SP-SM	A-1, A-2 A-3, A-2, A-1	0	100		40-85 40-85		=	NP NP
137 Rositas		 Silt loam Sand, fine sand, loamy sand.	ISM, SP-SM	A-4 A-3, A-2, A-1	0	100 100		90-100 40-85		20-30	NP-5 NP
138*: Rositas	0-4 4-60	Loamy fine sand Sand, fine sand, loamy sand.	ISM ISM, SP-SM	A-1, A-2 A-3, A-2, A-1	0	100 100	80-100 80-100	40-85 40-85		==	NP NP
Superstition		Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0		95-100 95-100			=	NP NP
139 Superstition	6-60	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0		95-100 95-100				NP NP
140*: Torriorthents											
Rock outcrop											
141*: Torriorthents											
Orthids											
142	0-10	Loamy very fine	SM, ML	A-4	0	100	100	 85 - 95	 40 – 65	15-25	NP-5
Vint		sand. Loamy fine sand	SM	A-2	0	95-100	 95 - 100	70-80	120-30		NP
143 Vint		•		A-4	0	100		1	45 - 55		NP-5
	12-60	Loamy sand, loamy fine sand.	SM-SC SM	A-2	0	95-100	95-100	70-80	20-30		ΝP
144*:	- 8										
Vint	0-10	Very fine sandy loam.	SM, ML	A-4	0	100	100	85-95	40-65	15-25	NP-5
İ	10-40 40-60	Loamy fine sand Silty clay	SM CL, CH	A-2 A-7			95 ~ 100			40-65	NP 20-35
Indio	0-12	Very fine sandy	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
1	12-40	loam. Stratified loamy very fine sand	3	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
i 1		to silt loam. Silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

f * See description of the map unit for composition and behavior characteristics of the map unit.



Geo-Engineers and Geologists
Project No.: LE15070

Topographic Map



Geo-Engineers and Geologists
Project No.: LE15070

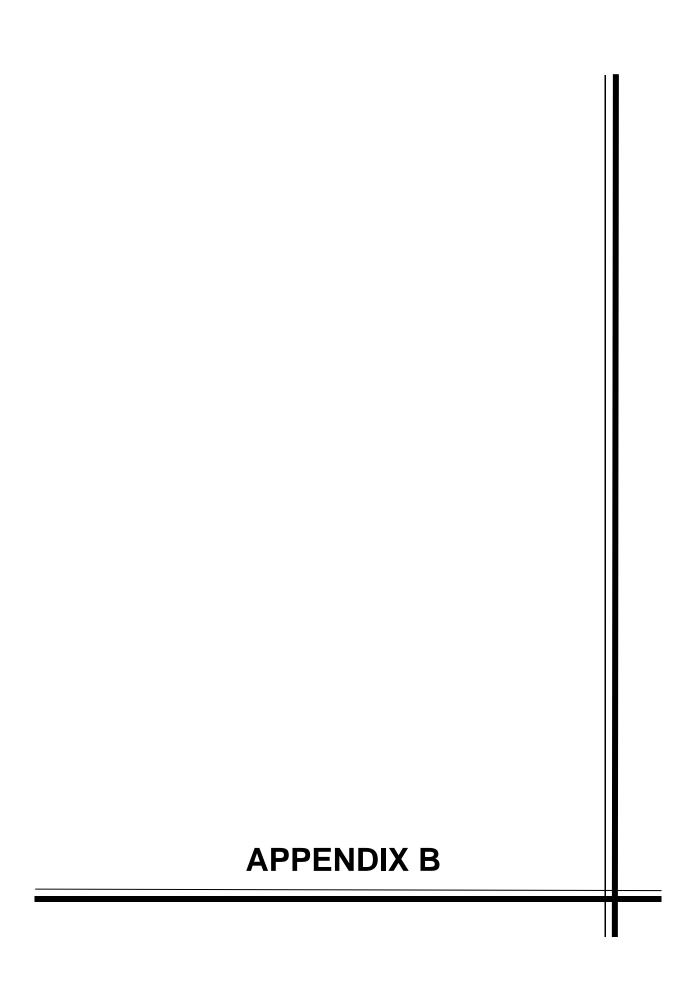
Regional Geologic Map





Project No.: LE15070

Map of Waterline Pothole Locations



된 FIELD LOG		OF BORING	No. B-1		LABORATORY					
DEPTH	出	, i	. ⊨	ET (tsf)		SHEET 1 OF 1		۱	URE :NT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	DES	SCRIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
-	•				SILTY SAND (SM):	Tan, moist, medium to	fine grained sand.			
5 —			26	3.0	CLAY (CH): Reddi	sh brown, moist, stiff to	very stiff.	100.1	24.4	LL=60% PI=38% c=1.28 tsf
10 -			19	2.0	some sand layers					LL=56% PI=36%
15 — -			14	2.5					25.0	
20 —			28	3.5						
25 — -			15	3.0						
30 -			41	4.5						
35 —			13	2.5						
40 - - -	N		20	2.0	some silt layers					
45 - -	N		12	1.5			-			
50 —			39	2.0	SILTY CLAY (CL):	Dark brown, wet, stiff,	some sand layers			
55 — 					Total Depth = 51.5' Groundwater encor Backfilled with exca	untered at a depth of 44	ft. at time of drilling			
	DRII	I FD·	5/21/	15		TOTAL DEPTH:	51.5 Feet	DF	PTH TO W	/ATER: 44 ft.
1			P. La				Hollow Stem Auger		METER:	
1					Approximately -30'				OP:	
厂		IFOT		E450		Land	MARK			

l

PROJECT No. LE15070

Geo-Engineers and Geologists

II.		FI	ELD		LOG	OF BORING I	No. B-2			RATORY
DEPTH	Щ	(v)	_ ⊨	ET (tsf)		SHEET 1 OF 1		<u></u>	URE ENT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	DE	SCRIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - - 5 —			17		SILTY SAND (SM medium grained s): Brown, dry to moist, f and.	ine to			
_ _ _				2.5	SILTY CLAY (CL):	Brown, moist, stiff				
10 —			36		SILTY SAND (SM) fine grained sand.): Orange-brown, very m	noist, dense,	108.5	9.4	$\Phi = 28^{\circ}$ Passing #200 = 18.3%
15 -			9	3.0	CLAY (CH): Redo	dish brown, very moist, very	ery stiff			
20 -										
25 —										
30 —										
35 - -										
40 —										
45 - -										
50 -										
55 - - - -					Total Depth = 16.5 No groundwater e Backfilled with exc	encountered at time of dri	lling			
60 —										
DATE	DRILI	LED:	5/22/	15		_ TOTAL DEPTH: _		DEI	PTH TO W	ATER: <u>NA</u>
ı			J. Av				Hollow Stem Auger		METER:	
SURF	ACE E	LEVATI	ON:		Approximately -30'	_ HAMMER WT.:	140 lbs.	_ DR	OP:	30 in.
F	PRO	JECT	No. L	E150	70	LAND Geo-Engineers	MARK and Geologists		PLA	ATE B-2

Geo-Engineers and Geologists

		FI	FIELD LO				F BORING	No. B-3		LABORATORY		
DEPTH	Щ	(v)	_ ⊨	ET (tsf)			SHEET 1 OF 1		<u></u>	URE ENT wt.)		
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESC	RIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS	
- - -	•				SILTY SA	AND (SM): L	t. brown, dry to moi	st, fine grained sand.				
5 - 5 -			25	2.0	SILTY CL	.AY (CL): Br	own, moist, stiff		98.9	24.8		
10 -			29	3.0	CLAY (CH	H/CL): Redd	ish brown, very mo	st, very stiff	104.6	22.8	c=1.48 tsf LL=50% PI=31%	
15 — - -			10					¥				
20 —												
25 —												
30 —												
35 — -												
40 —												
45 — - -												
50 —												
55 -					Groundw	oth = 16.5' ater encount d with excava	tered at 16 ft. at tim	e of drilling				
60 —					Dackillet	A WILLI GALAVO	ALOU JUII					
-	DRILI	_ED:	5/22/	15			TOTAL DEPTH:	16.5 Feet	DE	PTH TO W	/ATER: 16 ft.	
ı			J. Av					Hollow Stem Auger	_	METER:		
SURF	ACE E	ELEVATION	ON:		Approximat	ely -30'	HAMMER WT.: _		DR	OP:	30 in.	
F	PRO	JECT	No. L	E150	70		Geo-Engineers	MARK and Geologists		PLA	ATE B-3	

FIELD LOG		LOG OF	BORING	No. B-4			RATORY				
DEPTH	쁘	(i)		(tsf)			EET 1 OF 1		≽	URE ENT wt.)	
□	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESCRI	PTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - -	•				SILTY SAI	ND (SM): Lt. brodium grained sa	own, dry to mois and.	t,			
5 —			14	0.5	CLAYEY S	SAND (SC): Bro	own, very moist,	firm	111.6	19.4	LL=36% PI=21%
10 —			13	2.5	SILTY CLA	AY (CL): Brown	, moist, stiff		110.6	19.3	LL=24% PI=4%
15 —	N		17	3.5	CLAY (CH): Reddish brov	wn, very moist, v	ery stiff			
20 —											
-											
25 — - - -											
30 —											
35 —											
40 —											
45 —											
50 —											
55 —					Total Dans	h 40.51					
-					Total Dept No ground Backfilled		ered at time of dr soil	illing			
60 —	ריים	,	E/00/	15			OTAL DEDTI:	40.5.5			ATED: NA
I .			5/22/ J. Av				OTAL DEPTH: _	16.5 Feet Hollow Stem Auger		PTH TO W .METER:	
I .					Approximate		AMMER WT.:		_	OP:	
_							LAND				

PROJECT No. LE15070



PLATE B-4

		FIELD LO			LOG O	F BORING	No. B-5			RATORY	
DEPTH	出	, i	. ⊢	ET tsf)			SHEET 1 OF 1		≥	URE :NT wt.)	
ä	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESC	RIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
_					SILTY CL	AY (CL): Lt.	brown. dry				
- -					SILTY SA fine to me	ND (SM): Lt	t. brown, dry to mois d sand.	st,			
5 — - -			17	1.0	SILTY CL	AY (CL): Bro	own, moist, stiff		100.7	25.8	c=0.94 tsf
10 —	1		10	0.5	soft to firm	า					
15 —	Z		14	2.5	CLAY (CH	l): Reddish	brown, very moist, v	very stiff			
20 —											
25 —											
30 —											
35 — - -											
40 —											
45 —											
50 —											
55 —					Total Dep	th = 16.5'		elle a			
60 —					Backfilled	with excava	untered at time of d ted soil	ming			
-	יוופח	ED:	5/22/	15			TOTAL DEDTIL	16 F Foot	DEI	PTH TO M	ATER: NA
ı			J. Av				TOTAL DEPTH: _ TYPE OF BIT:			METER:	
ı					Approximat	elv -30'	HAMMER WT.:			OP:	
			No. L				LAND	MARK and Geologists			ATE B-5

DEFINITION OF TERMS

PRIMARY DIVISIONS

SYMBOLS

SECONDARY DIVISIONS

	Gravels	Clean gravels (less	0.0	GW	Well graded gravels, gravel-sand mixtures, little or no fines
	More than half of	than 5% fines)		GP	Poorly graded gravels, or gravel-sand mixtures, little or no fines
	coarse fraction is larger than No. 4	Gravel with fines		GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
Coarse grained soils More than half of material is larger	sieve	Graver with filles		GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
that No. 200 sieve	Sands	Clean sands (less		SW	Well graded sands, gravelly sands, little or no fines
	More than half of	than 5% fines)		SP	Poorly graded sands or gravelly sands, little or no fines
	coarse fraction is smaller than No. 4	Sands with fines		SM	Silty sands, sand-silt mixtures, non-plastic fines
	sieve	Garas with lines	11/4	sc	Clayey sands, sand-clay mixtures, plastic fines
	Silts an	d clays		ML	Inorganic silts, clayey silts with slight plasticity
	Liquid limit is I	ess than 50%		CL	Inorganic clays of low to medium plasticity, gravely, sandy, or lean clays
Fine grained soils More than half of material is smaller	Liquid IIIIII 10 I	000 than 00%		OL	Organic silts and organic clays of low plasticity
than No. 200 sieve	Silts an	d clays		МН	Inorganic silts, micaceous or diatomaceous silty soils, elastic silts
	Liquid limit is n	nore than 50%	///	СН	Inorganic clays of high plasticity, fat clays
	Elquiu IIIIII IS II	Total alam 50 /6	99/1	ОН	Organic clays of medium to high plasticity, organic silts
Highly organic soils			\$\$\$ \$\$\$\$	PT	Peat and other highly organic soils

GRAIN SIZES

Silts and Clays		San	t		Gravel		Cobbles	Boulders
Sills and Glays	Fine	Mediur	n Coar	e Fine	Coarse		Copples	boulders
	200	40	10	4	3/4"	3"	12"	

US Standard Series Sieve

Clear Square Openings

Sands, Gravels, etc.	Blows/ft. *
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Clays & Plastic Silts	Strength **	Blows/ft. *
Very Soft	0-0.25	0-2
Soft	0.25-0.5	2-4
Firm	0.5-1.0	4-8
Stiff	1.0-2.0	8-16
Very Stiff	2.0-4.0	16-32
Hard	Over 4.0	Over 32

- * Number of blows of 140 lb. hammer falling 30 inches to drive a 2 inch O.D. (1 3/8 in. I.D.) split spoon (ASTM D1586).
- ** Unconfined compressive strength in tons/s.f. as determined by laboratory testing or approximated by the Standard Penetration Test (ASTM D1586), Pocket Penetrometer, Torvane, or visual observation.

Type of Samples:

Ring Sample

Standard Penetration Test

 \prod Shelby Tube

Bulk (Bag) Sample

Drilling Notes:

1. Sampling and Blow Counts

Ring Sampler - Number of blows per foot of a 140 lb. hammer falling 30 inches.

Standard Penetration Test - Number of blows per foot.

Shelby Tube - Three (3) inch nominal diameter tube hydraulically pushed.

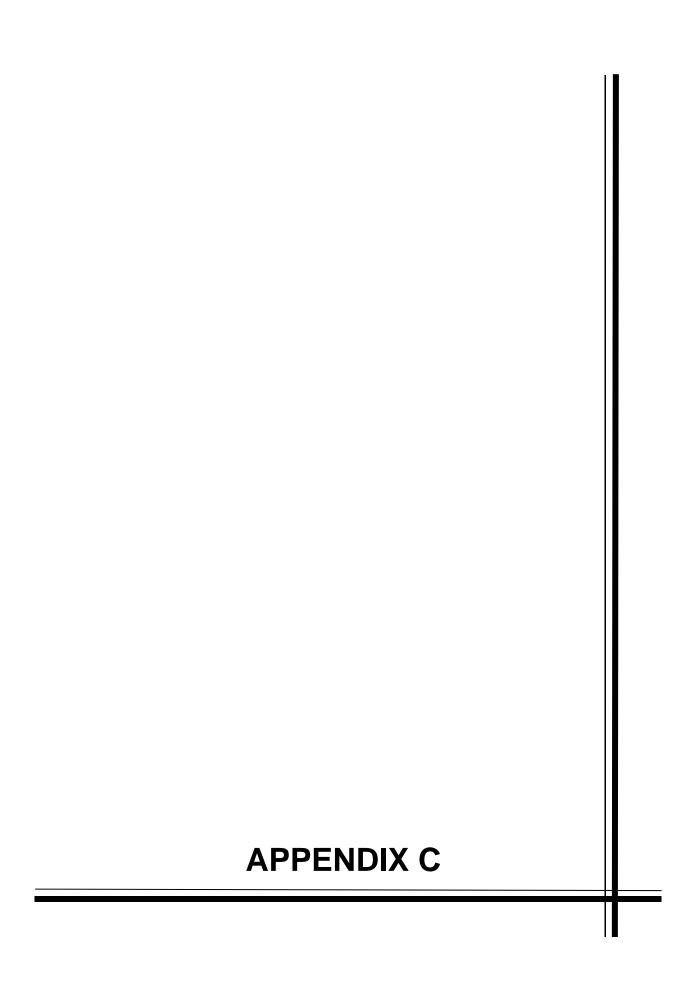
- 2. P. P. = Pocket Penetrometer (tons/s.f.).
- 3. NR = No recovery.
- 4. GWT = Ground Water Table observed @ specified time.



Project No. LE15070

Key to Logs

Plate B-6



LANDMARK CONSULTANTS, INC.

CLIENT: SEPV Imperial, LLC

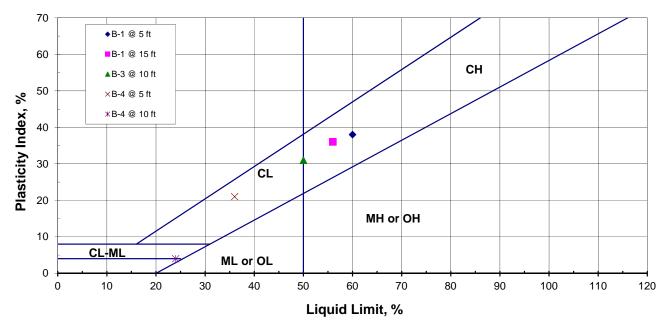
PROJECT: Dixieland East Solar Farm - Seeley, CA

JOB No.: LE15070 **DATE:** 06/11/15

ATTERBERG LIMITS (ASTM D4318)

Sample Location	Sample Depth (ft)	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	USCS Classification	
B-1	5	60	22	38	CH	
B-1	15	56	20	36	CH	
B-3	10	50	19	31	CL-CH	
B-4	5	36	15	21	CL	
B-4	10	24	20	4	ML	

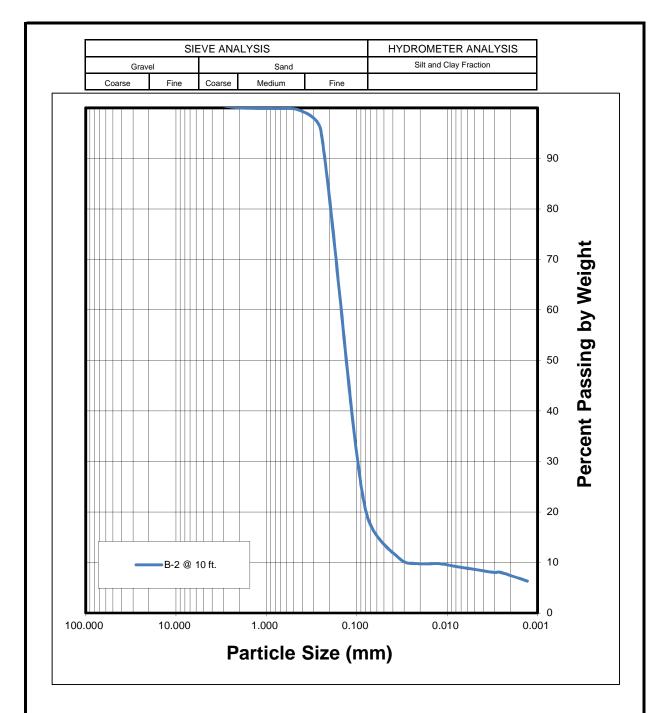
PLASTICITY CHART





Project No.: LE15070

Atterberg Limits
Test Results





Grain Size Analysis

LANDMARK CONSULTANTS, INC.

CLIENT: SEVP Imperial, LLC

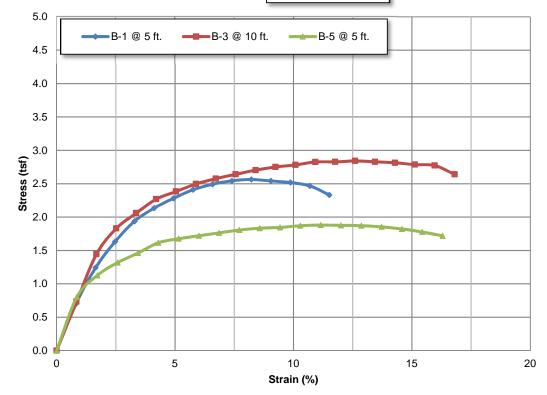
PROJECT: Dixieland East Solar -- Seeley, CA

JOB NO: LE15070 **DATE:** 6/9/2015

UNCONFINED COMPRESSION TEST (ASTM D2166)

Boring No.	Sample Depth (ft)	Natural Moisture Content (%)	Unit Dry Weight (pcf)	Maximum Compressive Strength (tsf)	Cohesion (tsf)	Failure Strain (%)	
B-1	5	24.4	100.1	2.56	1.28	8.2	
B-3	10	22.8	104.6	2.84	1.42	12.6	
B-5	5	25.8	100.7	1.88	0.94	11.1	

Stress - Strain Plot



Geo-Engineers and Geologists

Project No.: LE15070

Unconfined Compression
Test Results

LANDMARK CONSULTANTS, INC.

CLIENT: SEPV Imperial, LLC

PROJECT: Dixieland West Solar Project

PROJECT No: LE15070 **DATE:** 6/10/2015

DIRECT SHEAR TEST - INSITU (ASTM D3080)

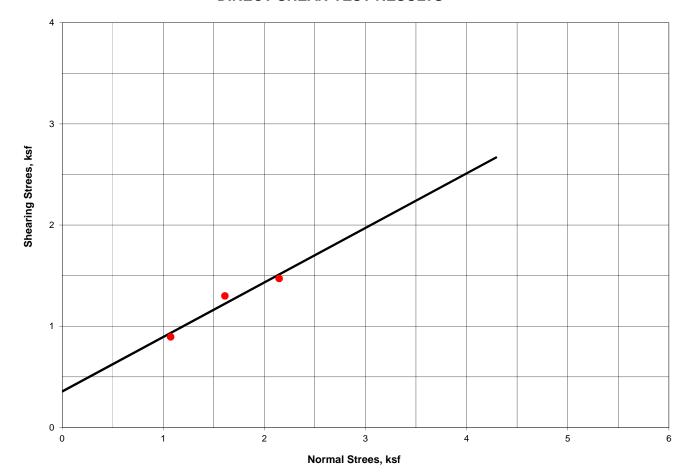
 SAMPLE LOCATION:
 B-2 @ 10 ft

 SAMPLE DESCRIPTION:
 Sand (SP)

Angle of Internal Friction: 28° Initial Dry Density: 108.5 pcf

Cohesion: 0.36 ksf Initial Moisture Content: 9.4%

DIRECT SHEAR TEST RESULTS



Geo-Engineers and Geologists
PROJECT No: LE15070

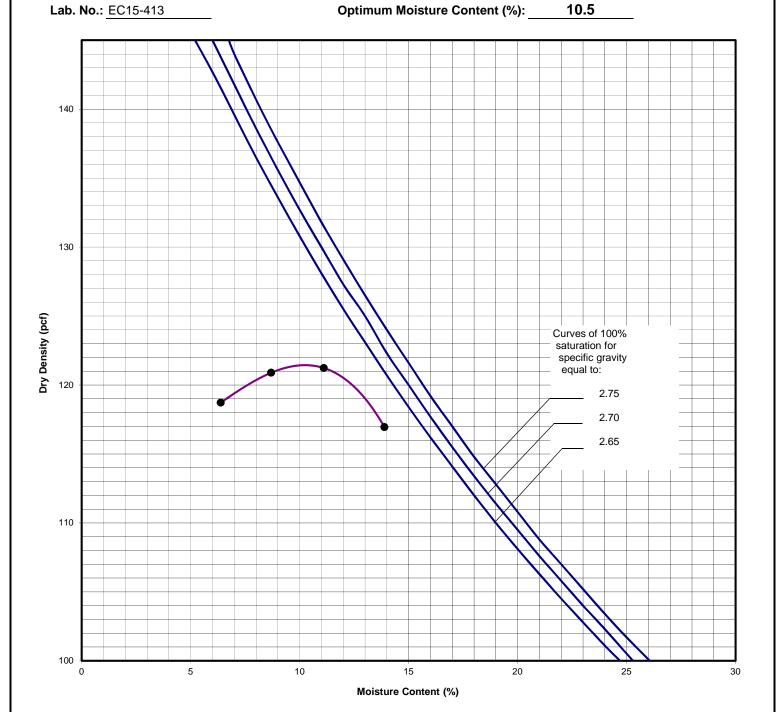
Direct Shear Test Results

 Client:
 SEPV, LLC
 Soil Description:
 Sand (SP)

 Project:
 Dixieland Solar East
 Sample Location:
 B-1 @ 0 to -5'

 Project No.:
 LE15070
 Test Method:
 ASTM D-1557 A

 Date:
 6/15/2015
 Maximum Dry Density (pcf):
 121.5





Project No.: LE15070

Moisture Density Relationship

LANDMARK CONSULTANTS, INC.

CLIENT: Charles Dessert

PROJECT: Mesquite Industrial Park, Imperial County, CA

JOB No.: LE09122 **DATE:** 06/01/09

CHEMICAL ANALYSIS

Boring: Sample Depth, ft:	B-1 0-5	B-2 0-5	B-5 0-5	Caltrans Method
pH:	8.9	8.5	8.7	643
Electrical Conductivity (mmhos):	0.90	0.33	0.83	424
Resistivity (ohm-cm):	530	1600	900	643
Chloride (CI), ppm:	730	130	150	422
Sulfate (SO4), ppm:	200	165	935	417

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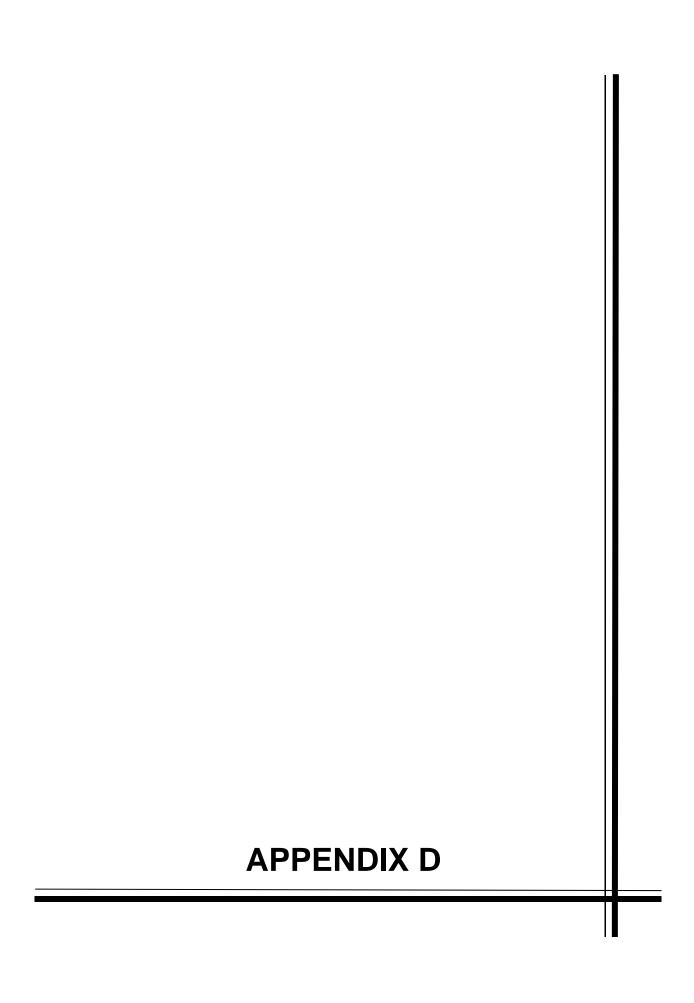
General Guidelines for Soil Corrosivity

Material Affected	Chemical Agent	Amount in Soil (ppm)	Degree of Corrosivity
Concrete	Soluble Sulfates	0 - 1,000 1,000 - 2,000 2,000 - 20,000 > 20,000	Low Moderate Severe Very Severe
Normal Grade Steel	Soluble Chlorides	0 - 200 200 - 700 700 - 1,500 > 1,500	Low Moderate Severe Very Severe
Normal Grade Steel	Resistivity	1 - 1,000 1,000 - 2,000 2,000 - 10,000 > 10,000	Very Severe Severe Moderate Low



Project No.: LE09122

Selected Chemical Test Results



Liquefaction Evaluation and Settlement Calculation

Project Name: Dixieland East Solar Farm -- Seeley, CA

Project No.: LE15070 Location: B-1

 Maximum Credible Earthquake
 7

 Design Ground Motion
 0.50 g

 Total Unit Weight,
 110 pcf

 Water Unit Weight,
 62.4 pcf

 Depth to Groundwater
 20 ft

 Hammer Effenciency
 90

 Required Factor of Safety
 1.3

	Boring Data						S	ampling Cor	rections			Corrected	Fines	SPT Clean	Cyclical	Cyclical	Factor	Volumetric	Induced	
D	epth	Blov	v Counts	Liquefiable	Overburden	Sampler	SPT	Energy	Borehole	Rod	Liner	Overburden	SPT	Content	Sands	Resistance	Stress	of	Strain (%)	Subsidence
(ft)	(m)	SPT	Mod. Cal.	Soil (0 / 1)	Pressure	Diameter	N_{m}	C _E	C _B	C_R	C_L	C_N	(N ₁) ₆₀	%	(N ₁) _{60CS}	CRR _{M7.5}	CSR	Safety		(inch)
6	1.83		26	0	660	0.67	17	1.50	1.0	0.75	1	1.70	33	98	45		0.321	Non-Liq.	0.00	0.00
11	3.35		19	0	1210	0.67	13	1.50	1.0	0.80	1	1.32	20	98	29	0.386	0.318	Non-Liq.	0.00	0.00
16	4.88	14		0	1760	1	14	1.50	1.0	0.85	1	1.10	20	98	28	0.357	0.314	Non-Liq.	0.00	0.00
21	6.40		28	0	2248	0.67	19	1.50	1.0	0.95	1	0.97	26	98	36		0.319	Non-Liq.	0.00	0.00
26	7.92	15		0	2486	1	15	1.50	1.0	0.95	1	0.92	20	95	29	0.363	0.351	1.23	0.00	0.00
31	9.45		41	0	2724	0.67	27	1.50	1.0	0.95	1	0.88	35	95	46		0.372	Non-Liq.	0.00	0.00
36	10.97	13		0	2962	1	13	1.50	1.0	1.00	1	0.85	16	95	25	0.279	0.384	0.87	0.00	0.00
41	12.50		20	0	3200	0.67	13	1.50	1.0	1.00	1	0.81	16	95	25	0.277	0.386	0.86	0.00	0.00
46	14.02	12		0	3438	1	12	1.50	1.0	1.00	1	0.78	14	95	22	0.239	0.380	0.75	0.00	0.00
51	15.54		39	0	3676	0.67	26	1.50	1.0	1.00	1	0.76	30	95	41		0.368	Non-Liq.	0.00	0.00
	0.00			0	0	0.67	0	1.50	1.0	#N/A	1	#DIV/0!	#N/A	7.8	#N/A	#N/A	#DIV/0!	#N/A	0.00	
	0.00			0	0	0.67	0	1.50	1.0	#N/A	1	#DIV/0!	#N/A	74	#N/A	#N/A	#DIV/0!	#N/A	0.00	
	0.00			0	0	0.67	0	1.50	1.0	#N/A	1	#DIV/0!	#N/A	95	#N/A	#N/A	#DIV/0!	#N/A	0.00	
	0.00			0	0	0.67	0	1.50	1.0	#N/A	1	#DIV/0!	#N/A	95	#N/A	#N/A	#DIV/0!	#N/A	0.00	

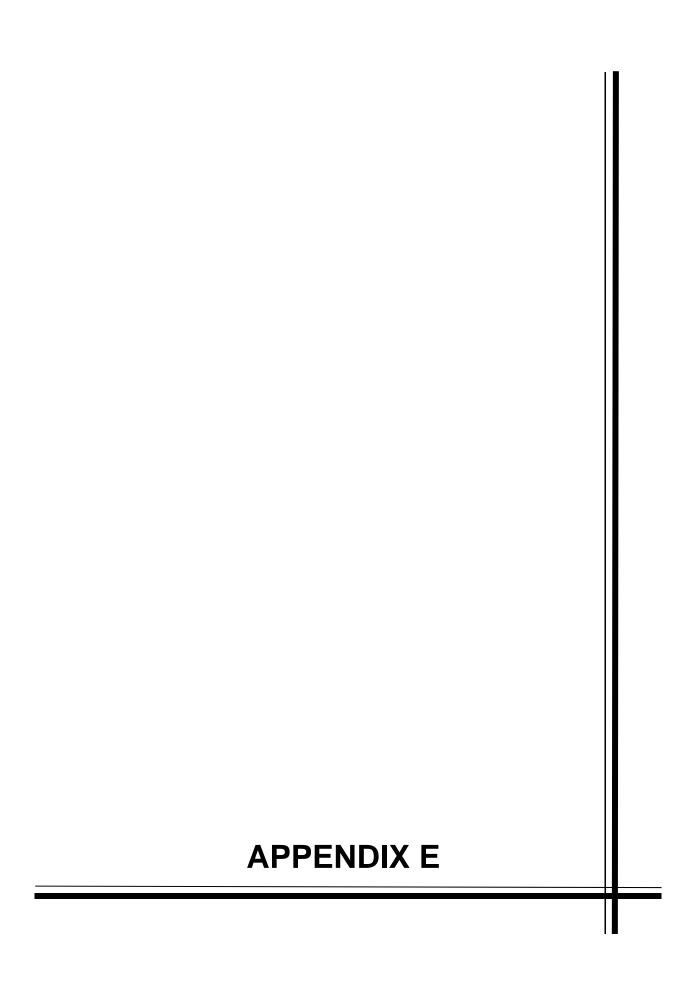
Based on Proceeding of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Technical Report NCEER-97-0022, December 31, 1997.

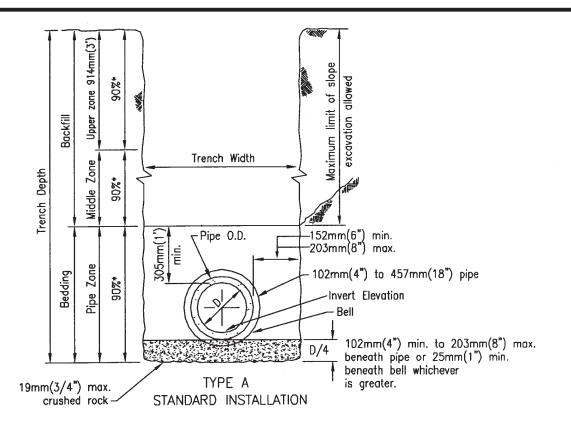
Corrections to SPT (Modified from Skempton, 1986) as listed by Robertson and Wride.

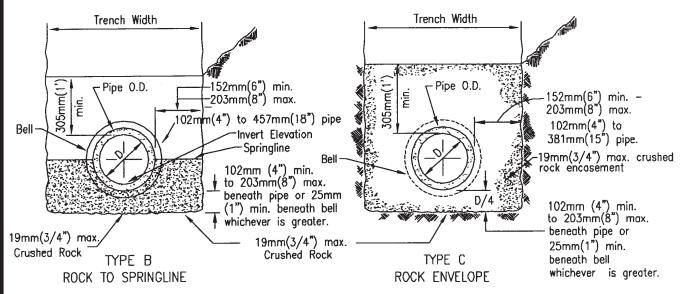
Factor	Equipment Variable	Term	Correction
Overburden Pressure		C _N	$(P_a/\sigma_{VO})^{0.5}$
			C _N <=2
Energy Ratio	Donut Hammer	C _E	0.5 to 1.0
	Safety Hammer		0.7 to 1.2
	Automatic-trip Donut type Hammer		0.8 to 1.3
Borehole Diameter	2.6 inch to 6 inch	C _B	1
	6 inch		1.05
	8 inch		1.15
Rod Length	10 feet to 13 feet	C _R	0.75
	13 feet to 19.8 ft.		0.85
	19.8 ft. to 33 ft.		0.95
	33 ft. to 98 ft.		1
	> 98 ft.		<1.0
Sampling Method	Standard Sampler	CL	1
	Sampler without liners		1.1 to 1.3

Total Settlement

0.00







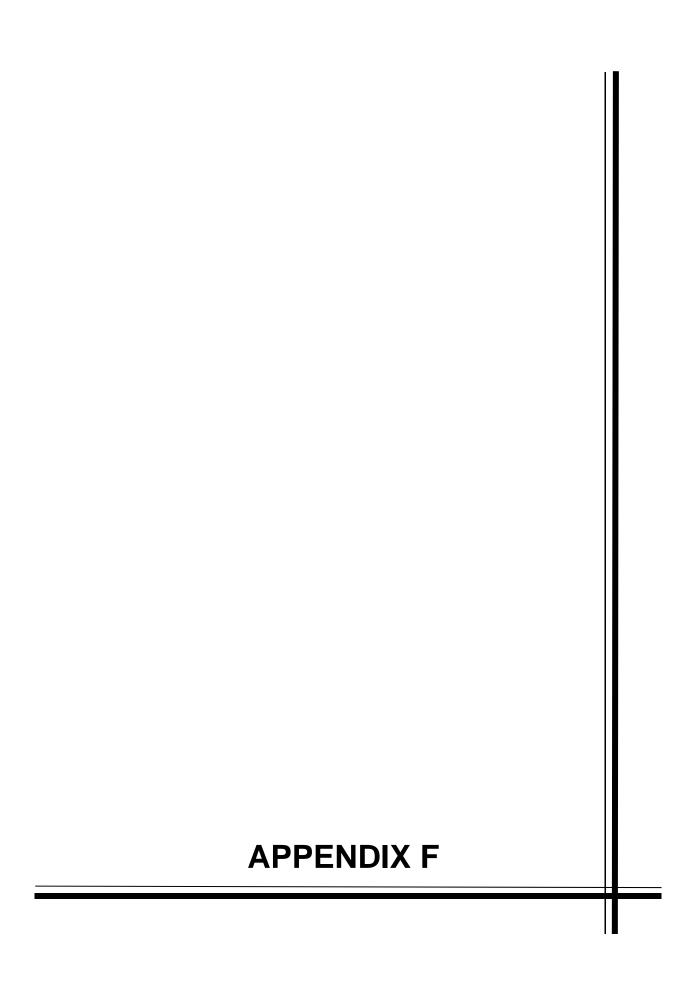
NOTES

- 1. For trenching in improved streets, see Standard Drawings G-24 or G-25 for trench resurfacing.
- 2. (*) indicates minimum relative compaction.
- 3. Minimum depth of cover from the top of pipe to finish grade for all sanitary sewer installations shall be 914mm(3') For cover less than 914mm(3'), see Standard Drawing S-7 for concrete encasement.
- 4. See Type A installation for details not shown for Types B and C.



Pipe Bedding and Trench Backfill Recommendations

Plate E-1





June 16, 2015

Steve Williams **Landmark Consultants** 780 N. 4th Street El Centro, California 92243

SUBJECT: DIXIELAND SOLAR EAST - THERMAL RESISTIVITY DATA SUMMARY **REPORT**

RFYeager Engineering Project No.: 15083

Dear Steve.

On June 16, 2015, RFYeager Engineering conducted laboratory thermal resistivity testing on one soil sample for the Dixieland Solar East project. The cylindrical sample, as prepared by Landmark, had a dimension of 2½ inch (diameter) by 6 inch (length). The sample is identified as LE15070 EC15-413.

The thermal resistivity was determined using a Decagon KD2 Pro Portable Thermal Properties Analyzer (KD2 Pro) outfitted with the 100 mm long, 2.4 mm diameter TR-1 sensor. Testing was conducted in general accordance with the standard method ASTM D5334-08 which calculates thermal resistivity by monitoring the dissipation of heat from a line heat source. The test consists of inserting a thermal sensor into the soil sample with a known current and voltage applied. The thermal resistivity is obtained from an analysis of the time series temperature data during the heating and cooling cycle of the sensor. The corresponding temperature rise in the soil over a period of time is recorded

The soil thermal resistivity is provided in Table 1 below. The corresponding Time vs. Temperature graph for the sample is provided in Appendix A. For the purposes of this report, the thermal resistivity value is provided as "data only" in order to assist others in the project design.

Dixieland Solar East - Soil Thermal Resistivity

Date: June 16, 2015

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Table 1 – Dixieland Solar East Soil Thermal Resistivity Data					
Prepared by: RFYeager Engineering					
Sample ID	Thermal Resistivity ¹ (C-cm/W)				
LE15070 EC15-413	115.6				

^{1 -} ASTM D5334-08.

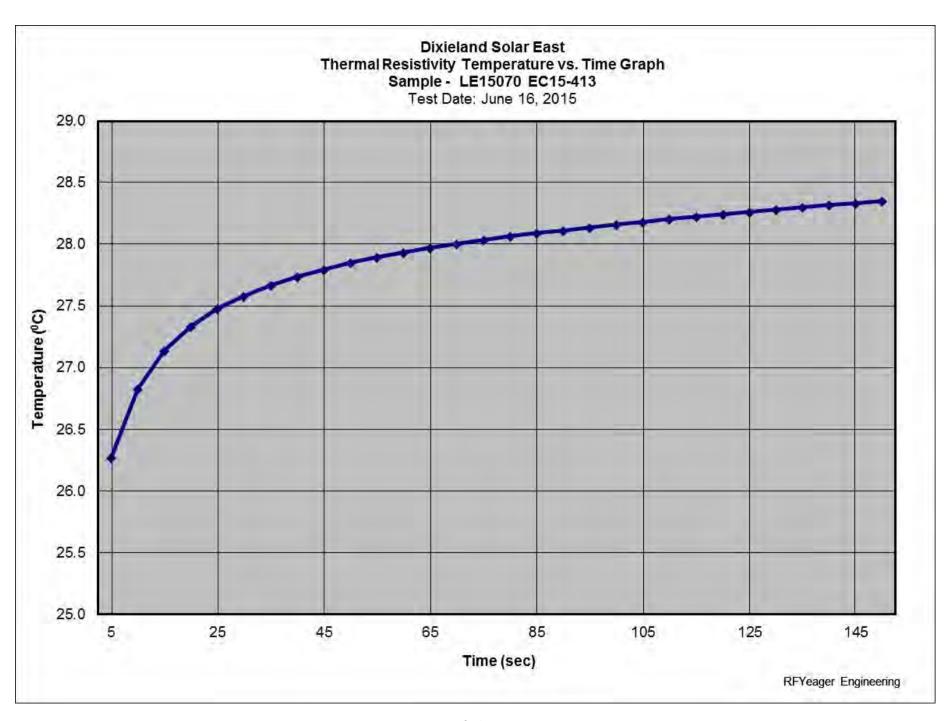
Thank you for this opportunity to provide our professional services. Please call if you have any questions.

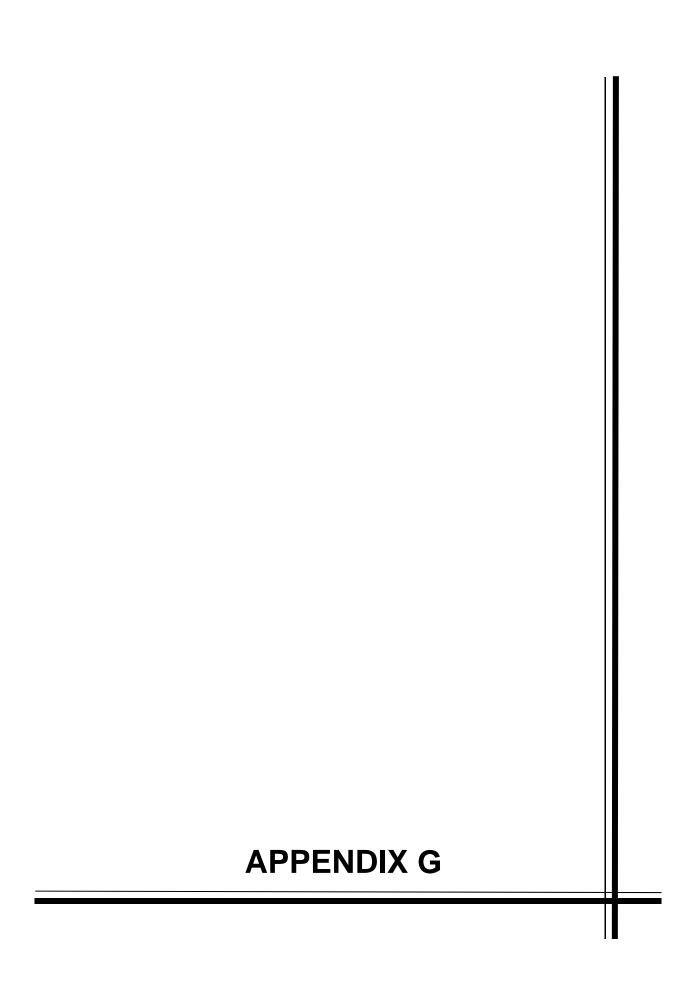
With best regards,

Randy J. Geving, PE

Registered Professional Engineer – Corrosion No.1060

APPENDIX A THERMAL RESISTIVITY CURVE





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Geotechnical Investigation Report

Dixieland West Solar Farm

NWC Carriso Avenue and Evan Hewes Hwy Imperial County, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049





Prepared by:

Landmark Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 370-3000

June 2015



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Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

> Geotechnical Report SEPV Dixieland West Solar Farm NWC Carriso Avenue and Evan Hewes Hwy Imperial County, California LCI Report No. LE15071

Dear Mr. Hall:

This geotechnical report is provided for design and construction of the proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County, California. Our geotechnical exploration was conducted in response to your request for our services. The enclosed report describes our soil engineering site evaluation and presents our professional opinions regarding geotechnical conditions at the site to be considered in the design and construction of the project.

This executive summary presents *selected* elements of our findings and professional opinions. This summary *may not* present all details needed for the proper application of our findings and professional opinions. Our findings, professional opinions, and application options are *best related through reading the full report*, and are best evaluated with the active participation of the engineer of record who developed them. The findings of this study are summarized below:

- Silty sand (SM) soils cover the project site to a depth of 50 feet. A 4-foot thick silty clay (CL) layer encountered at a depth of 4 feet on the south side of the site and at a depth of 9 feet in the northeast corner.
- The risk of liquefaction induced settlement is low due to the dense nature of the saturated granular subsurface soils.
- The native sandy soils are not aggressive to concrete and steel. No special concrete mixes are required. Steel posts driven into the sand and clays at 4 to 9 feet may require corrosion protection.
- The sandy soils are suitable for onsite infiltration in stormwater basins.

Pavement structural sections may be designed for silty sand subgrade soils (R-Value = 40).

We did not encounter soil conditions that would preclude development of the proposed project provided the professional opinions contained in this report are considered in the design and construction of this project.

We appreciate the opportunity to provide our findings and professional opinions regarding geotechnical conditions at the site. If you have any questions or comments regarding our findings, please call our office at (760) 370-3000.

Respectfully Submitted.

Landmark Consultants, Inc.

Julian R. Avalos, PE Senior Enginee

No. 73339 EXPIRES 12-31-16 Jeffrey O. Lyon, PE

President

No. 31921 EXPIRES 12-31-16

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Section 1 INTRODUCTION

1.1 Project Description

This report presents the findings of our geotechnical exploration and soil testing for the proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County, California (See Vicinity Map, Plate A-1).

The proposed project will consist of PV solar modules mounted on sun tracking structures supported by shallow driven steel posts. Also, the proposed solar energy facility will have ground mounted inverter stations and step-up transformers.

It is not anticipated that an operations and maintenance building or an electrical substation will be constructed for this project. Site development will include site grading, solar panel posts installation, underground power cable installation, and site fence construction.

1.2 Purpose and Scope of Work

The purpose of this geotechnical study was to investigate the subsurface soil at selected locations within the site for evaluation of physical/engineering properties and liquefaction potential during seismic events. Professional opinions were developed from field and laboratory test data and are provided in this report regarding geotechnical conditions at this site and the effect on design and construction. The scope of our services consisted of the following:

- Field exploration and in-situ testing of the site soils at selected locations and depths.
- ► Laboratory testing for physical and/or chemical properties of selected samples.
- ▶ Review of the available literature and publications pertaining to local geology, faulting, and seismicity.
- Engineering analysis and evaluation of the data collected.
- Preparation of this report presenting our findings and professional opinions regarding the geotechnical aspects of project design and construction.

This report addresses the following geotechnical parameters:

- Subsurface soil and groundwater conditions
- Site geology, regional faulting and seismicity, near source factors, and site seismic accelerations
- Liquefaction potential and its mitigation
- Expansive soil and methods of mitigation
- Aggressive soil conditions to metals and concrete

Professional opinions with regard to the above parameters are provided for the following:

- Site grading and earthwork
- Building pad and foundation subgrade preparation
- ► Allowable soil bearing pressures and expected settlements
- Concrete slabs-on-grade
- Excavation conditions and buried utility installations
- ► Mitigation of the potential effects of salt concentrations in native soil to concrete mixes and steel reinforcement
- Seismic design parameters
- Soil erosion plans
- Pavement structural sections

Our scope of work for this report did not include an evaluation of the site for the presence of environmentally hazardous materials or conditions, groundwater mounding, or landscape suitability of the soil.

1.3 Authorization

Mr. Michael Stern, COO of SEPV Imperial, LLC, provided authorization by written agreement to proceed with our work on April 24, 2015. We conducted our work according to our written proposal dated April 14, 2015.

Section 2 METHODS OF INVESTIGATION

2.1 Field Exploration

Subsurface exploration was performed on May 21, 2015 using 2R Drilling of Ontario, California to advance five (5) borings to depths of 16.5 to 51.5 feet below existing ground surface. The borings were advanced with a track-mounted, CME 75 drill rig using 8-inch diameter, hollow-stem, continuous-flight augers. The approximate boring locations were established in the field and plotted on the site map by sighting to discernible site features. The boring locations are shown on the Site and Exploration Plan (Plate A-2).

A staff engineer observed the drilling operations and maintained logs of the soil encountered with sampling depths. Soils were visually classified during drilling according to the Unified Soil Classification System and relatively undisturbed and bulk samples of the subsurface materials were obtained at selected intervals. The relatively undisturbed soil samples were retrieved using a 2-inch outside diameter (OD) split-spoon sampler or a 3-inch OD Modified California Split-Barrel (ring) sampler. In addition, Standard Penetration Tests (SPT) were performed in accordance with ASTM D1586. The samples were obtained by driving the samplers ahead of the auger tip at selected depths using a 140-pound CME automatic hammer with a 30-inch drop. The number of blows required to drive the samplers the last 12 inches of an 18-inch drive depth into the soil is recorded on the boring logs as "blows per foot". Blow counts (N values) reported on the boring logs represent the field blow counts. No corrections have been applied to the blow counts shown on the boring logs for effects of overburden pressure, automatic hammer drive energy, drill rod lengths, liners, and sampler diameter. Pocket penetrometer readings were also obtained to evaluate the stiffness of cohesive soils retrieved from sampler barrels.

After logging and sampling the soil, the exploratory borings were backfilled with the excavated material. The backfill was loosely placed and was not compacted to the requirements specified for engineered fill.

The subsurface logs are presented on Plates B-1 through B-5 in Appendix B. A key to the log symbols is presented on Plate B-6. The stratification lines shown on the subsurface logs represent the approximate boundaries between the various strata. However, the transition from one stratum to another may be gradual over some range of depth.

2.2 Laboratory Testing

Laboratory tests were conducted on selected bulk (auger cuttings) and relatively undisturbed soil samples obtained from the soil borings to aid in classification and evaluation of selected engineering properties of the site soils. The tests were conducted in general conformance to the procedures of the American Society for Testing and Materials (ASTM) or other standardized methods as referenced below. The laboratory testing program consisted of the following tests:

- ▶ Plasticity Index (ASTM D4318) used for soil classification and expansive soil design criteria
- ▶ Particle Size Analyses (ASTM D422) used for soil classification and liquefaction evaluation
- Unit Dry Densities (ASTM D2937) and Moisture Contents (ASTM D2216) used for insitu soil parameters
- ► Moisture-Density Relationship (ASTM D1557) used for soil compaction determinations.
- ► Direct Shear (ASTM D3080) used for soil strength determination
- ► Unconfined Compression (ASTM D2166) used for soil strength estimates.
- Chemical Analyses (soluble sulfates & chlorides, pH, and resistivity) (Caltrans Methods) used for concrete mix proportions and corrosion protection requirements.

The laboratory test results are presented on the subsurface logs (Appendix B) and on Plates C-1 through C-9 in Appendix C. Engineering parameters of soil strength, compressibility and relative density utilized for developing design criteria provided within this report were obtained from the field and laboratory testing program.

2.3 Thermal Resistivity Testing

Near surface soil samples (upper 5 feet) were obtained for laboratory thermal resistivity testing at one (1) location (Boring B-1) for grounding grid and buried electrical cable design parameters. The testing was conducted in accordance with ASTM D5334. The results of the thermal resistivity testing are presented in Appendix F.

Section 3 **DISCUSSION**

3.1 Site Conditions

The proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County (APN 034-390-026). The 36-acre project site is vacant, flat-lying with dry desert vegetation covering the site. Several large bushes are located in the central portion of the site. Powerlines are located along the east and south sides of the site. The Imperial Irrigation District's Dixieland Substation is located adjacent to the northeast corner of the project site.

Adjacent properties are flat-lying and are approximately at the same elevation with this site. Properties surrounding the project site consist of vacant desert land. The Centinela State prison is located approximately 2 miles north of the site. Imperial Lakes, a small community of rural homes surrounding two water skiing lakes is located ¼ mile to the west. The undeveloped Dixieland Townsite lots along Evan Hewes Highway are located to the east.

The project site lies at an elevation of approximately 15 to 25 feet below mean sea level (MSL) (El. 975 to 985 local datum) in the Imperial Valley region of the California low desert. The surrounding properties lie on terrain which is flat (planar), part of a large agricultural valley, which was previously an ancient lake bed covered with fresh water to an elevation of $43\pm$ feet above MSL. Annual rainfall in this arid region is less than 3 inches per year with four months of average summertime temperatures above $100\,^{\circ}$ F. Winter temperatures are mild, seldom reaching freezing.

3.2 Geologic Setting

The project site is located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments deposited since the Miocene Epoch.

Tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of seismicity. Figure 1 shows the location of the site in relation to regional faults and physiographic features.

The Imperial Valley is directly underlain by lacustrine deposits, which consist of interbedded lenticular and tabular silt, sand, and clay. The Late Pleistocene to Holocene (present) lake deposits are probably less than 100 feet thick and derived from periodic flooding of the Colorado River which intermittently formed a fresh water lake (Lake Cahuilla). Older deposits consist of Miocene to Pleistocene non-marine and marine sediments deposited during intrusions of the Gulf of California. Basement rock consisting of Mesozoic granite and Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 - 20,000 feet.

3.3 Subsurface Soil

Subsurface soils encountered during the field exploration conducted on May 21, 2015 consist of silty sands (SM) and silts (ML). Clay soils were encountered at a depth of 4 feet in the southern portion of the site and at a depth of 9 feet in the northeast corner. The subsurface logs (Plates B-1 through B-5) depict the stratigraphic relationships of the various soil types.

3.4 Groundwater

Groundwater was encountered in Boring B-1 at about 20.7 feet, B-3 at 16 feet and B-4 at 14.5 feet during the time of exploration. There is uncertainty in the accuracy of short-term water level measurements, particularly in fine-grained soil. Groundwater levels may fluctuate with precipitation, irrigation of adjacent properties, drainage, and site grading.

3.5 Faulting

The project site is located in the seismically active Imperial Valley of southern California with numerous mapped faults of the San Andreas Fault System traversing the region. The San Andreas Fault System is comprised of the San Andreas, San Jacinto, and Elsinore Fault Zones in southern California. The Imperial fault represents a transition from the more continuous San Andreas fault to a more nearly echelon pattern characteristic of the faults under the Gulf of California (USGS 1990). We have performed a computer-aided search of known faults or seismic zones that lie within a 62 mile (100 kilometer) radius of the project site (Table 1).

A fault map illustrating known active faults relative to the site is presented on Figure 1, *Regional Fault Map*. Figure 2 shows the project site in relation to local faults. The criterion for fault classification adopted by the California Geological Survey defines Earthquake Fault Zones along active or potentially active faults. An active fault is one that has ruptured during Holocene time (roughly within the last 11,000 years). A fault that has ruptured during the last 1.8 million years (Quaternary time), but has not been proven by direct evidence to have not moved within Holocene time is considered to be potentially active. A fault that has not moved during Quaternary time is considered to be inactive. Review of the current Alquist-Priolo Earthquake Fault Zone maps (CGS, 2000a) indicates that the nearest mapped Earthquake Fault Zone is the Yuha Well fault located approximately 3.9 miles south of the project site. The Yuha Well fault was recently identified and zoned after the April 4, 2010 magnitude 7.2M_w El Mayor-Cucapah earthquake.

3.6 General Ground Motion Analysis

The project site is considered likely to be subjected to moderate to strong ground motion from earthquakes in the region. Ground motions are dependent primarily on the earthquake magnitude and distance to the seismogenic (rupture) zone. Acceleration magnitudes also are dependent upon attenuation by rock and soil deposits, direction of rupture and type of fault; therefore, ground motions may vary considerably in the same general area.

<u>CBC General Ground Motion Parameters:</u> The 2013 CBC general ground motion parameters are based on the Risk-Targeted Maximum Considered Earthquake (MCE_R). The U.S. Geological Survey "U.S. Seismic Design Maps Web Application" (USGS, 2014) was used to obtain the site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters. The site soils have been classified as Site Class D (stiff soil profile).

Design spectral response acceleration parameters are defined as the earthquake ground motions that are two-thirds (2/3) of the corresponding MCE_R ground motions. Design earthquake ground motion parameters are provided in Table 2. A Risk Category I was determined using Table 1604A.5 and the Seismic Design Category is D since S_1 is less than 0.75g.

The Maximum Considered Earthquake Geometric Mean (MCE_G) peak ground acceleration (PGA_M) value was determined from the "U.S. Seismic Design Maps Web Application" (USGS, 2015) for liquefaction and seismic settlement analysis in accordance with 2013 CBC Section 1803A.5.12 and CGS Note 48 (PGA_M = $F_{PGA}*PGA$). A PGA_M value of 0.50g has been determined for the project site.

3.7 Seismic and Other Hazards

- Groundshaking. The primary seismic hazard at the project site is the potential for strong groundshaking during earthquakes along the Imperial, Laguna Salada, and Superstition Hills faults.
- Surface Rupture. The California Geological Survey has established Earthquake Fault Zones in accordance with the 1972 Alquist-Priolo Earthquake Fault Zone Act. The Earthquake Fault Zones consists of boundary zones surrounding faults or fault segments determined to be sufficiently active, well-defined, and mappable for some distance. The project site does not lie within an A-P Earthquake Fault Zone; therefore, surface fault rupture is considered to be low at the project site.
- Liquefaction. Liquefaction is unlikely to be a potential hazard at the site due to the dense nature of the saturated granular soil. The potential for liquefaction at the site is discussed in more detail in Section 3.8.

Other Potential Geologic Hazards.

- Landsliding. The hazard of landsliding is unlikely due to the regional planar topography. No ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during our site investigation.
- Volcanic hazards. The site is not located in proximity to any known volcanically active area and the risk of volcanic hazards is considered very low.
- ► Tsunamis and seiches. The site is not located near any large bodies of water, so the threat of tsunami, seiches, or other seismically-induced flooding is unlikely.
- ► Flooding. The project site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual chance floodplain (FIRM Panel 06025C1675C).
- **Expansive soil.** The surficial 5 feet of soil consists of non-expansive silty sands.

3.8 Liquefaction

Liquefaction occurs when granular soil below the water table is subjected to vibratory motions, such as produced by earthquakes. With strong ground shaking, an increase in pore water pressure develops as the soil tends to reduce in volume. If the increase in pore water pressure is sufficient to reduce the vertical effective stress (suspending the soil particles in water), the soil strength decreases and the soil behaves as a liquid (similar to quicksand). Liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations.

Four conditions are generally required for liquefaction to occur:

- (1) the soil must be saturated (relatively shallow groundwater);
- (2) the soil must be loosely packed (low to medium relative density);
- (3) the soil must be relatively cohesionless (not clayey); and
- (4) groundshaking of sufficient intensity must occur to function as a trigger mechanism.

The saturated granular soil encountered at the points of exploration at the project site is not considered to be susceptible to liquefaction due to the dense nature of the soil deposits. A printout of the evaluation of the potential for liquefaction induced settlement is provided in Appendix D.

Evaluation of the site for dry seismic settlement indicates that the site is anticipated to experience less than 0.05 inch of seismic settlement of the soil above groundwater. A printout of the evaluation of the potential for dry seismic settlement is provided in Appendix D.

Section 4 **DESIGN CRITERIA**

4.1 Site Preparation

<u>Clearing and Grubbing:</u> There is moderate cover of scattered desert shrubs and a few mesquite trees existing on the site. Any surface improvements, debris or vegetation including brush, trees, and weeds on the site at the time of construction should be removed from the construction area. Root balls should be completely excavated. Organic strippings should be stockpiled and not used as engineered fill. All trash, construction debris, concrete slabs, old pavement, landfill, fences, and buried obstructions such as old foundations and utility lines exposed during rough grading should be traced to the limits of the foreign material by the grading contractor and removed under the supervision of the Geotechnical Engineer. Any excavations resulting from site clearing should be sloped to a bowl shape to the lowest depth of disturbance and backfilled under the observation of the geotechnical engineer's representative.

Mass Grading: For general site grading, the native soils shall be moisture conditioned to $\pm 2\%$ of optimum for sands, placed in maximum 8 inch lifts, and recompacted to a minimum of 90% of the maximum density determined in accordance with ASTM D1557 methods. Prior to placing any fills, 12 inches of the existing native soils shall be moisture conditioned to $\pm 2\%$ of optimum and compacted to a minimum of 90%. Due to the erodibility of the sand soils, permanent slopes shall not be steeper than 3H:1V without slope protection.

The rough grading plans indicate that there will be 1 foot deep stormwater basins covering a majority of the project site. A minimum access roadway width of 20 feet is provided between the stormwater basins and the perimeter of the site. The slopes and benches should be compacted to a minimum of 95% of ASTM D1557 maximum density at optimum moisture plus or minus 2%. The slope shall be over-built and trimmed such that the final slope face consists of a minimum of 18-inches of compacted soil.

<u>Trench Backfill:</u> The native granular soil is suitable for use as compacted fill and utility trench backfill. The native soil should be placed in maximum 8 inch lifts (loose) and compacted to a minimum of 90% of ASTM D1557 maximum dry density at optimum moisture ±2%.

Backfill soil of utility trenches within paved areas should be placed in layers not more than 6 inches in thickness and mechanically compacted to a minimum of 90% of the ASTM D1557 maximum dry density, except that the top 12 inches should be compacted to a minimum of 95%.

Observation and Density Testing: All site preparation and fill placement should be continuously observed and tested by a representative of a qualified geotechnical engineering firm. Full-time observation services during the excavation and scarification process is necessary to detect undesirable materials or conditions and soft areas that may be encountered in the construction area. The geotechnical firm that provides observation and testing during construction shall assume the responsibility of "geotechnical engineer of record" and, as such, shall perform additional tests and investigation as necessary to satisfy themselves as to the site conditions and the geotechnical parameters for site development.

4.2 Foundations and Settlements

Shallow spread footings or mat slabs are suitable to support the inverters and other small electrical equipment. Mat slabs shall be founded on a minimum of 18 inches of compacted native silty sands (90% minimum @ optimum moisture $\pm 2\%$). The foundations may be designed using an allowable soil bearing pressure of 2,000 psf for compacted sands. The allowable soil pressure may be increased by 20% for each foot of embedment depth in excess of 18 inches and by one-third for short term loads induced by winds or seismic events. The maximum basic allowable soil pressure at increased embedment depths shall not exceed 3,500 psf.

<u>Flat Plate Structural Mats</u>: Structural mats may be designed for a modulus of subgrade reaction (Ks) of 200 pci when placed on 1.5 feet of compacted native sand.

Resistance to horizontal loads will be developed by passive earth pressure on the sides of footings and frictional resistance developed along the bases of footings and concrete slabs. Passive resistance to lateral earth pressure may be calculated using an equivalent fluid pressure of 300 pcf (sands) to resist lateral loadings.

The top one foot of embedment should not be considered in computing passive resistance unless the adjacent area is confined by a slab or pavement. An allowable friction coefficient of 0.35 for sands may also be used at the base of the footings to resist lateral loading.

Foundation movement under the estimated static (non-seismic) loadings and static site conditions are estimated to not exceed 0.5 inch with differential movement of about two-thirds of total movement for the loading assumptions stated above when the subgrade preparation guidelines given above are followed. Seismically induced liquefaction settlement of the surrounding land mass and structure is not expected to occur at this project site.

4.3 Drilled Piers

Individual short piers should be adequate to support electrical inverter components and security camera post bases. Embedment depth for short piers to resist lateral loads where no-constraint is provided at ground surface may be designed using the following formula per 2013 CBC Section 1807.3.2.1:

$$d = A/2 [1 + (1+4.36h/A)^{1/2}]$$
 (Equation 18-1)

where:

 $A = 2.34P/S_1b$

b = Pier diameter in feet

d = Embedment depth in feet (but not over 12 feet for purpose of computing lateral pressure)

h = Distance in feet from ground surface to point of application of "P"

P = Applied lateral force in pounds

S₁ = Allowable lateral soil bearing pressure (basic value of 150 psf/f (see 2007 CBC Table 1804.2). Isolated piers such solar panel short piers that are not adversely affected by a 0.5 inch motion at the ground surface due to short-term lateral loads are permitted to be designed using lateral soil bearing pressures equal to two times the basic soil bearing value. Security camera post piers should not use increased soil bearing values in order to provide greater resistance to wind load vibrations.

The short pier foundations may be designed using an allowable soil bearing pressure of 1,500 psf for the native soils.

4.4 Driven Steel Posts

The use of driven steel posts requires special provisions for corrosion protection due to the corrosive nature of the subsurface soils. Steel posts for single-axis tracker PV panel mounting frames have been preliminary sized as W6x9 and W6x15. The specified tip elevation (6, 8 and 10 feet) and design load for typical driven steel W-pile shapes are provided in Table 4 and 5. Axial and lateral loads were applied at 4 feet above ground surface.

Driving conditions may be determined by the SPT Blow Counts shown on the Boring logs. Load capacities and deflections for the selected PV posts are provided in Tables 3 and 4.

Table No. 3
Allowable Capacities of Driven Steel Posts (W6x9)

Pile Type	W6x9	W6x9	W6X9
Pile Length (ft):	10	12	14
Specified Tip Depth (ft):	6	8	10
Height Above Ground (ft):	4	4	4
Allowable Axial Capacity (kips) – FS=2.5:	2.70	4.96	6.00
Allowable Uplift Capacity (kips) – FS=2.5:	2.54	4.85	5.64
Lateral Load – Free Head Condition (kips):	0.60	0.77	0.77
Top Deflection (in) - Free Head Condition:	0.50	0.50	0.50
Maximum Moment from Lateral Load,	0.10	4.00	4.22
Free Head Condition (ft-kips):	3.18	4.23	4.23
Depth of Maximum Moment	5 0	6.2	6.2
(from Top of Post), Free Head (ft):	5.8	6.2	6.2

Table No. 4
Allowable Capacities of Driven Steel Posts (W6x15)

Pile Type	W6x15	W6x15	W6X15
Pile Length (ft):	10	12	14
Specified Tip Depth (ft):	6	8	10
Height Above Ground (ft):	4	4	4
Allowable Axial Capacity (kips) – FS=2.5:	3.10	5.76	7.39
Allowable Uplift Capacity (kips) – FS=2.5:	2.99	5.64	6.66
Lateral Load – Free Head Condition (kips):	0.72	1.14	1.15
Top Deflection (in) – Free Head Condition:	0.50	0.50	0.50
Maximum Moment from Lateral Load, Free Head Condition (ft-kips):	3.73	6.31	6.37
Depth of Maximum Moment (from Top of Post), Free Head (ft):	5.8	6.5	6.5

Recommendations for other steel shapes and sizes can be made available upon request.

Point bearing and skin friction parameters were used to determine the allowable vertical shaft capacity. The allowable vertical capacities include a factor of safety of 2.5. The allowable vertical capacities may be increased by 33 percent to accommodate temporary loads derived from wind or seismic forces. The allowable vertical shaft capacities are based on the supporting capacity of the soil.

<u>Lateral Capacity:</u> The allowable lateral load was assumed to be applied at the top of the pile. The allowable horizontal deflection at the shaft head has been assumed to be one-half inch (0.50 inch).

<u>Settlement</u>: Total settlements of less than ¼ inch, and differential movement of about two-thirds of total movement for single poles designed according to the preceding design criteria. If post spacing is at least 2.5 diameters center-to-center, no reduction in axial load capacity is considered necessary for a group effect.

<u>Soil Parameters</u>: Interpretive soil parameters of the subsoil for L-Pile program are presented in the table below.

Layer Type	Depth (ft)	Unit Weight (pcf)	Friction Angle (deg)	Cohesion (ksf)	Strain Factor, E50 o Dr (%)	Lateral Soil Modulus, k (pci)
SM	0 to 4	115	32°		50	75
CL	4 to 8	125		1.75	0.70	500
SM	8 to 12	115	24°	0.40	0.75	400
SM	12 to 50	120	38°		75	215

Table 5: Soil Strength Parameters for L-Pile Program

4.5 Concrete Mixes and Corrosivity

Selected chemical analyses for corrosivity were conducted on bulk samples of the near surface soil from the project site (Plate C-8). The native soils were found to have low levels of sulfate ion concentration (122 to 375 ppm). The following table provides recommended cement types, water-cement ratio and minimum compressive strengths:

Table 6. Concrete Mix Design Criteria due to Soluble Sulfate Exposure

Sulfate Exposure	Water-soluble Sulfate (SO ₄) in soil, ppm	Cement Type	Maximum Water- Cement Ratio by weight	Minimum Strength f'c (psi)
Negligible	0-1,000	-	-	-
Moderate	1,000-2,000	II	0.50	4,000
Severe	2,000-20,000	V	0.45	4,500
Very Severe	Over 20,000	V (plus Pozzolon)	0.45	4,500

Note: from ACI 318-11 Table 4.2.1

The native soil has moderate to severe levels of chloride ion concentration (220 to 1,150 ppm). Chloride ions can cause corrosion of reinforcing steel, anchor bolts and other buried metallic conduits. Resistivity determinations on the soil indicate very severe potential for metal loss because of electrochemical corrosion processes. Mitigation of the corrosion of reinforcing steel can be achieved by using steel coated with epoxy corrosion inhibitors, asphaltic and epoxy coatings, cathodic protection or by encapsulating the portion of the steel lying above groundwater with a minimum of 3 inches of densely consolidated concrete.

Foundation designs shall provide a minimum concrete cover of three (3) inches around steel reinforcing or embedded components (anchor bolts, etc.) exposed to native soil. If the 3-inch concrete edge distance cannot be achieved, all embedded steel components (anchor bolts, etc.) shall be epoxy coated for corrosion protection (in accordance with ASTM D3963/A934) or a corrosion inhibitor and a permanent waterproofing membrane shall be placed along the exterior face of the exterior footings. Additionally, the concrete should be thoroughly vibrated at footings during placement to decrease the permeability of the concrete.

4.6 Excavations

All site excavations should conform to CalOSHA requirements for Type C soil to the clay layer and Type B soil in the clays. The contractor is solely responsible for the safety of workers entering trenches.

Temporary excavations with depths of 4 feet or less may be no steeper than 1:1 (horizontal:vertical). Sandy soil slopes should be kept moist, but not saturated, to reduce the potential of raveling or sloughing. Excavations will require slope inclinations in conformance to CAL/OSHA regulations for Type C soil. Surcharge loads of stockpiled soil or construction materials should be set back from the top of the slope a minimum distance equal to the height of the slope. All permanent slopes should not be steeper than 3:1 to reduce wind and rain erosion. Protected slopes with ground cover may be as steep as 2:1. However, maintenance with motorized equipment may not be possible at this inclination.

4.7 Seismic Design

This site is located in the seismically active southern California area and the site structures are subject to strong ground shaking due to potential fault movements along the Brawley, Superstition Hills, and Imperial Faults. Engineered design and earthquake-resistant construction are the common solutions to increase safety and development of seismic areas. Designs should comply with the latest edition of the CBC for Site Class D using the seismic coefficients given in Section 3.6 and Table 2 of this report.

4.8 Soil Erosion Factors for SWPPP Plans

The site soils are classified as silty sands with greater than 80% sand fraction soil particles (82% sand, 11% silt, and 7% clay). Groundwater is not expected at depths less than 14 feet below ground surface.

4.9 Pavements

Pavements should be designed according to CALTRANS or other acceptable methods. Traffic indices were not provided by the project engineer or owner; therefore, we have provided structural sections for several traffic indices for comparative evaluation. The public agency or design engineer should decide the appropriate traffic index for the site. Maintenance of proper drainage is necessary to prolong the service life of the pavements.

Based on the current State of California CALTRANS method, an estimated R-value of 40 for the subgrade soil and assumed traffic indices, the following table provides our estimates for asphaltic concrete (AC) and Portland Cement Concrete (PCC) pavement sections.

Table 7. Pavement Structural Sections

R-Value of Subgrade Soil - 40 (estimated)

Design Method - CALTRANS 2006

	Flexible Pavements		Rigid (PCC	C) Pavements	
Traffic Index (assumed)	Asphaltic Concrete Thickness (in.)	Aggregate Base Thickness (in.)	Concrete Thickness (in.)	Aggregate Base Thickness (in.)	
4.0	3.0	4.0	5.0	4.0	
5.0	3.0	4.0	5.0	4.0	
6.0	3.0	6.0	6.0	6.0	
6.5	4.0	8.0	7.0	6.0	
8.0	4.0	10.0	8.0	8.0	

Notes:

- 1) Asphaltic concrete shall be Caltrans, Type B, ¾ inch maximum (½ inch maximum for parking areas), medium grading with PG70-10 asphalt cement, compacted to a minimum of 95% of the Hveem density (CAL 366).
- 2) Aggregate base shall conform to Caltrans Class 2 (¾ in. maximum), compacted to a minimum of 95% of ASTM D1557 maximum dry density.
- Place pavements on 12 inches of moisture conditioned (±2% of optimum) native soil compacted to a minimum of 95% of the maximum dry density determined by ASTM D1557.
- 4) Portland cement concrete for pavements should have Type V cement, a minimum compressive strength of 4,500 psi at 28 days, and a maximum water-cement ratio of 0.45.
- 5) Typical Street Classifications (Imperial County)

Parking Areas: TI = 4.0Cul-de-Sacs: TI = 5.0Local Streets: TI = 6.0Minor Collectors: TI = 6.5Major Collectors: TI = 8.0

Section 5

LIMITATIONS AND ADDITIONAL SERVICES

5.1 Limitations

The findings and professional opinions within this report are based on current information regarding the proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County, California. The conclusions and professional opinions of this report are invalid if:

- ► Structural loads change from those stated or the structures are relocated.
- ► The Additional Services section of this report is not followed.
- ► This report is used for adjacent or other property.
- ► Changes of grade or groundwater occur between the issuance of this report and construction other than those anticipated in this report.
- ► Any other change that materially alters the project from that proposed at the time this report was prepared.

Findings and professional opinions in this report are based on selected points of field exploration, geologic literature, laboratory testing, and our understanding of the proposed project. Our analysis of data and professional opinions presented herein are based on the assumption that soil conditions do not vary significantly from those found at specific exploratory locations. Variations in soil conditions can exist between and beyond the exploration points or groundwater elevations may change. If detected, these conditions may require additional studies, consultation, and possible design revisions.

This report contains information that may be useful in the preparation of contract specifications. However, the report is not worded is such a manner that we recommend its use as a construction specification document without proper modification. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

This report was prepared according to the generally accepted *geotechnical engineering standards* of practice that existed in Imperial County at the time the report was prepared. No express or implied warranties are made in connection with our services.

This report should be considered invalid for periods after two years from the report date without a review of the validity of the findings and professional opinions by our firm, because of potential changes in the Geotechnical Engineering Standards of Practice.

The client has responsibility to see that all parties to the project including, designer, contractor, and subcontractor are made aware of this entire report. The use of information contained in this report for bidding purposes should be done at the contractor's option and risk.

5.2 Additional Services

We recommend that a qualified geotechnical consultant be retained to provide the tests and observations services during construction. The geotechnical engineering firm providing such tests and observations shall become the geotechnical engineer of record and assume responsibility for the project.

The professional opinions presented in this report are based on the assumption that:

- Consultation during development of design and construction documents to check that the geotechnical professional opinions are appropriate for the proposed project and that the geotechnical professional opinions are properly interpreted and incorporated into the documents.
- Landmark Consultants will have the opportunity to review and comment on the plans and specifications for the project prior to the issuance of such for bidding.
- ▶ Observation, inspection, and testing by the geotechnical consultant of record during site clearing, grading, excavation, placement of fills, building pad and subgrade preparation, and backfilling of utility trenches.
- ▶ Observation of foundation excavations and reinforcing steel before concrete placement.
- ▶ Other consultation as necessary during design and construction.

We emphasize our review of the project plans and specifications to check for compatibility with our professional opinions and conclusions. Additional information concerning the scope and cost of these services can be obtained from our office.

Table 1
Summary of Characteristics of Closest Known Active Faults

Fault Name	Approximate Distance (miles)	Approximate Distance (km)	Maximum Moment Magnitude (Mw)	Fault Length (km)	Slip Rate (mm/yr)
Yuha Well *	3.9	6.2			
Shell Beds	4.0	6.4			
Unnamed 1*	4.8	7.7			
Yuha*	5.8	9.3			
Vista de Anza*	7.0	11.2			
Laguna Salada	7.6	12.2	7	67 ± 7	3.5 ± 1.5
Superstition Mountain	8.2	13.1	6.6	24 ± 2	5 ± 3
Painted Gorge Wash*	8.8	14.2			
Superstition Hills	9.2	14.7	6.6	23 ± 2	4 ± 2
Unnamed 2*	9.7	15.6			
Ocotillo*	11.1	17.7			
Elsinore - Coyote Mountain	14.5	23.2	6.8	39 ± 4	4 ± 2
Imperial	15.4	24.6	7	62 ± 6	20 ± 5
Elmore Ranch	16.9	27.1	6.6	29 ± 3	1 ± 0.5
Borrego (Mexico)*	17.9	28.6			
Brawley *	18.1	28.9			
San Jacinto - Borrego	19.7	31.5	6.6	29 ± 3	4 ± 2
Rico *	22.1	35.3			
Pescadores (Mexico)*	26.0	41.5			
Cerro Prieto *	27.6	44.2			
Cucapah (Mexico)*	28.4	45.5		1	
San Jacinto - Anza	37.7	60.3	7.2	91 ± 9	12 ± 6

* Note: Faults not included in CGS database.

Table 2 2013 California Building Code (CBC) and ASCE 7-10 Seismic Parameters

CBC Reference

Soil Site Class:

D

Table 20.3-1

Latitude:

32.7934 N Longitude: -115.7815 W

Risk Category:

Ι

Seismic Design Category:

Maximum Considered Earthquake (MCE) Ground Motion

Mapped MCE _R Short Period Spectral Response	S_s	1.500 g	Figure 1613.3.1(1)
Mapped MCE _R 1 second Spectral Response	$\mathbf{S_1}$	0.600 g	Figure 1613.3.1(2)
Short Period (0.2 s) Site Coefficient	$\mathbf{F_a}$	1.00	Table 1613.3.3(1)
Long Period (1 () s) Site Coefficient	F	1.50	Table 1613 3 3(2)

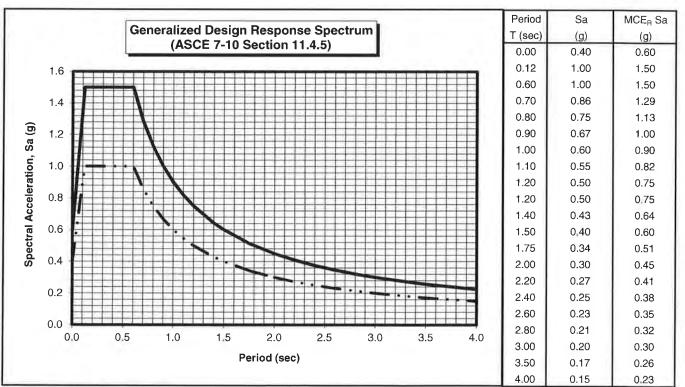
Long Period (1.0 s) Site Coefficient Table 1613.3.3(2) 1.500 g MCE_R Spectral Response Acceleration Parameter (0.2 s) $= F_a * S_s$ Equation 16-37 S_{MS} MCE_R Spectral Response Acceleration Parameter (1.0 s) 0.900 g $= F_v * S_1$ S_{M1} Equation 16-38

Design Earthquake Ground Motion

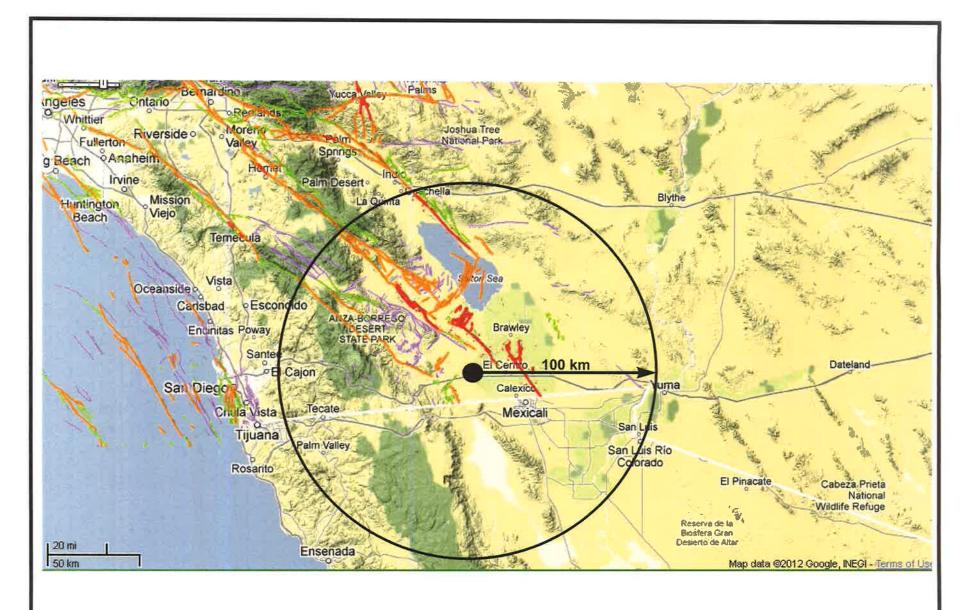
 $= 2/3*S_{MS}$ Design Spectral Response Acceleration Parameter (0.2 s) 1.000 g S_{DS} Equation 16-39 Design Spectral Response Acceleration Parameter (1.0 s) S_{D1} 0.600 g $= 2/3*S_{MI}$ Equation 16-40 T_{L} 8.00 sec ASCE Figure 22-12

> T_0 $0.12 \text{ sec} = 0.2*S_{DI}/S_{DS}$ $0.60 \text{ sec} = S_{DI}/S_{DS}$ T_S

Peak Ground Acceleration PGA_{M} 0.50 gASCE Equation 11.8-1

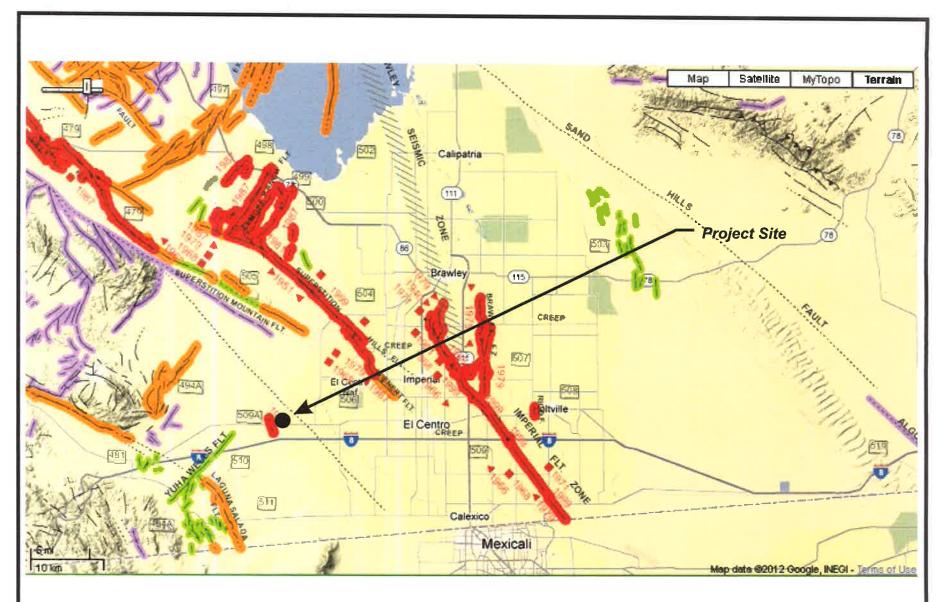


Design Response Spectra MCE_R Response Spectra



Source: California Geological Survey 2010 Fault Activity Map of California http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#





Source: California Geological Survey 2010 Fault Activity Map of California http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#



EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. Concealed faults in the Great Valley are based on maps of selected subsurface horizons, so locations shown are approximate and may indicate structural trend only. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE (Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

- (a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.
- (b) fault creep slippage slow ground displacement usually without accompanying earthquakes.
- (c) displaced survey lines.

A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

See Bulletin 201, Appendix D for source data.

No triangle by date indicates an intermediate point along fault break.

Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.

Square on fault indicates where fault creep slippage has occurred that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).

Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

2

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

______.

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Project No.: LE15071

Fault Map Legend

Figure 3a

ADDITIONAL FAULT SYMBOLS

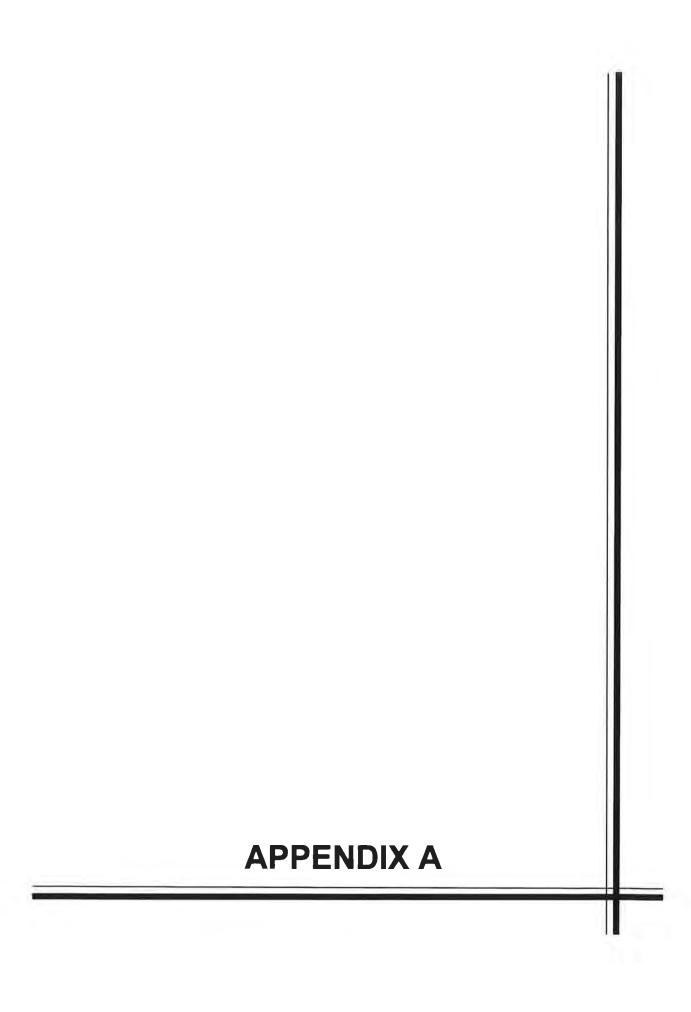
	Arrows along fault indicate relative or apparent direction of lateral movement.
	Arrow on fault indicates direction of dip.
	Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened. On offshore faults, barbs simply indicate a reverse fault regardless of steepness of dip.
	OTHER SYMBOLS
	Numbers refer to annotations listed in the appendices of the accompanying report. Annotations include fault name, age of fault displacement, and pertinent references including Earthquake Fault Zone maps where a fault has been zoned by the Alquist-Priolo Earthquake Fault Zoning Act. This Act requires the State Geologist to delineate zones to encompass faults with Holocene displacement.
	Structural discontinuity (offshore) separating differing Neogene structural domains. May indicate discontinuities between basement rocks.
	Brawley Seismic Zone, a linear zone of seismicity locally up to 10 km wide associated with the releasing

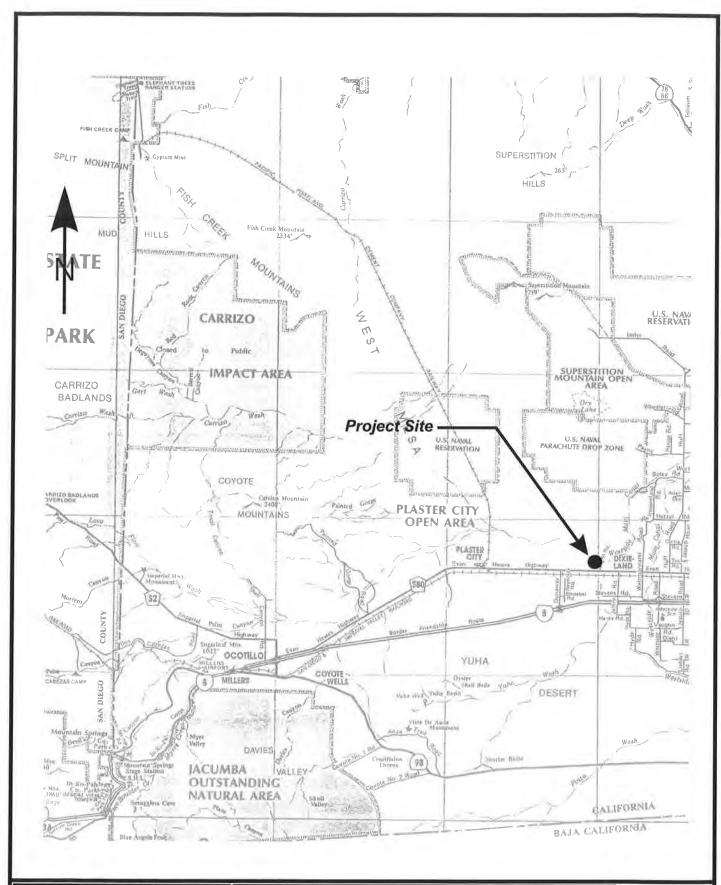
Bar and ball on downthrown side (relative or apparent).

Geologic				c	Years Before	Fault	Recency	DESCR	LIPTION
	lime Scale		Present (Approx.)	Symbol	of Movement	ON LAND	OFFSHORE		
	>	Historic	Displacement during Includes areas of the second se			Displacement during historic time (Includes areas of known fault cree			
	Late Quaternary	Holocene	200	~	-2	Despitation of the only the course father	Equit officials septions sentiments in alternated francosio again		
Quaternary	Late Q	63	— 11, 7 00 —		2.	Paulic Repring evolution is diagram evolutioning take Occurrency trees	Figuresia emina el tra- tiverzinamenta per		
Quate	Early Quaternary	Pleistocene	700,000		-2	Undroded Quaternary faults most faults in this category show without all displacement famely the lost 1,000,000 years; pussibles exceptions are faults which displace roces of maliferentiation Pilo-Plansaceme are.	Fault oils strato of Quaternary aga		
Pre-Quaternary			—1,600,000°—			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pilocene or older age.		
			4.5 billion (Age of Earth)						

^{*} Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.





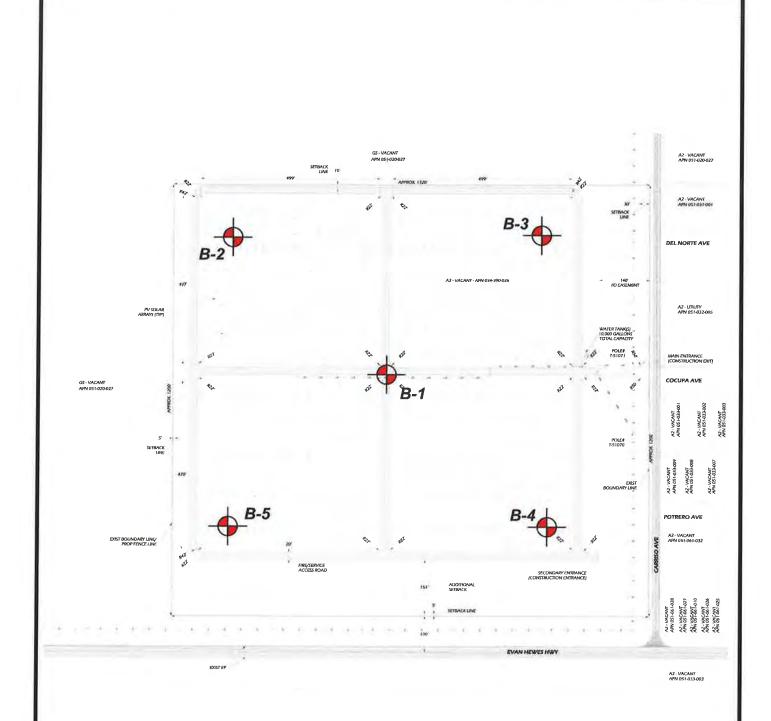


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Vicinity Map

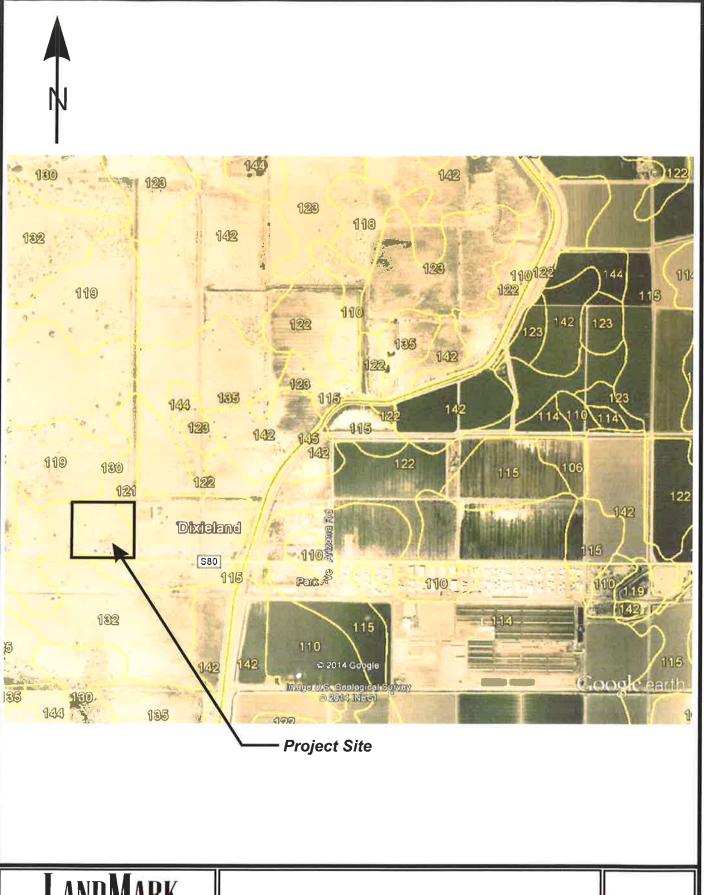
Plate A-1



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Project No.: LE15071

Boring Location Map

Plate A-2



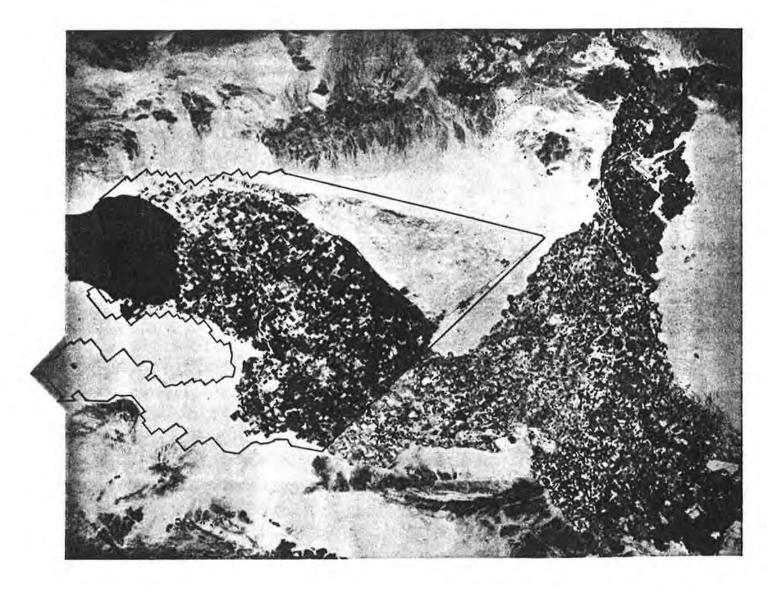
Geo-Engineers and Geologists
Project No.: LE15071

Soil Survey Map

Plate A-3

Soil Survey of

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service in cooperation with University of California Agricultural Experiment Station

Imperial Irrigation District

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

Soil name and	Depth	USDA texture		fication	Frag-	P	ercenta sieve	ge pass number-		Liquid	Plas-
map symbol	In		Unified	1 AASHTO	> 3 inches Pct	4	10	40	200	l limit	ticit
100 Antho	0-13	Loamy fine sand Sandy loam, fine sandy loam.	SM SM	A-2 A-2, A-4	0		100 75-95	75-85 50-60			N P N P
101*: Antho		Loamy fine sand Sandy loam, fine sandy loam.		A-2 A-2, A-4	0		100 175 - 95			===	N P N P
Superstition		Fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0		95-100 195-100			==	N P N P
102*. Badland											
103 Carsitas	110-60	Gravelly sand Gravelly sand, gravelly coarse sand, sand.	SP, SP-S	5M A-1, A-2 5M A-1			50-85 50-85		0-10 0-10	133	N P N P
104* Fluvaquents							4 4 6	i !			
105 Glenbar	113-60	Clay loamClay loam, silty clay loam.	CL CL	A-6 A-6	0	100 100		90-100 90-100		35-45 35-45	15 - 30 15 - 30
106 Glenbar	113-60	Clay loam Clay loam, silty clay loam		A-6, A-7 A-6, A-7		100 100		90-100		35-45 35-45	15-25 15-25
107 * Glenbar	0-13	Loam	CL→ML,	A-4	0	100	100	100	70-80	20-30	NP-10
		Clay loam, silty clay loam.	CL CL	A-6, A-7	0	100	100	95-100	75-95	35-45	15-30
08 Holtville	14-22 22-60	Loam Clay, silty clay Silt loam, very fine sandy loam.	CL, CH	A - 4 A - 7 A - 4	0 0 0	100 100 100	100	85-100 95-100 95-100	85-95	40-65	NP-10 20-35 NP-10
09 Holtville	117-24	Silty clay Clay, silty clay Silt loam, very fine sandy	CL. CH	A-7 A-7 A-4	0 0 0	100 100 100	1 100	95-100 95-100 95-100	85-95	40-65 40-65 25-35	20-35 20-35 NP-10
	35-60	loam. Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75-100	20-55		NP
10Holtville	17-24 24-35	Silty clay Clay, silty clay Silt loam, very fine sandy	CH, CL	A-7 A-7 A-4	0 0 0	100 100 100	100	95-100 95-100 95-100	185-95	40-65 40-65 25-35	20-35 20-35 NP-10
	35-60	loam. Loamy very fine sand, loamy fine sand.	SM, ML	A-2, A-4	0	100	100	75 - 100	20-55		NP

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and	Depth	USDA texture	Classif	cation	Frag- lments	Pe	rcentag sieve n			Liquid	Plas-
map symbol	Depun	OSSR SCASSIC	Unified		> 3	4	10	40	200	limit	
	In				Pet					Pet	
111*: Holtville	110-22	Silty clay loam Clay, silty clay Silt loam, very fine sandy loam.	CL, CH	A-7 A-7 A-4	0 0 0	100 100 100	100	95-100 95-100 95-100	85-95	40-65 40-65 25-35	20-35 20-35 NP-10
Imperial		Silty clay loam Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		85-95 85-95		10-20 25-45
	112-60	Silty clay Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		85-95 85-95		25-45 25-45
113 Imperial	112-60	Silty clay Silty clay, clay, silty clay loam.	СН СН	A-7 A-7	0	100 100	100 100		85-95 85-95		25-45 25-45
	112-60	Silty clay Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100		85-95 85-95		25-45 25-45
115*:								100	105.05	10.50	10.20
Imperial	112-60	Silty clay loam Silty clay loam, silty clay, clay.		A - 7 A - 7	0	100 100	100		85-95	40 - 50 50 - 70	10-20 25-45
Glenbar		Silty clay loam Clay loam, silty clay loam.	CL	A-6, A-7 A-6, A-7	0	100 100		90-100 90-100			15-25 15-25
116*: Imperial		Silty clay loam Silty clay loam, silty clay, clay.		A-7 A-7	0	100 100	100 100		 85-95 85-95		10-20 25-45
Glenbar		Silty clay loam Clay loam, silty clay loam.		A-6, A-7	0	100 100		90-100 90-100			15-25 15-30
117, 118 Indio		Loam	ML	A-4 A-4	0	95-100 95-100	95-100 95-100	85-100 85-100	75-90 75-90	20-30 20-30	NP-5 NP-5
119*: Indio		LoamStratified loamy very fine sand to silt loam.		A – 4 A – 4	0	95-100 95-100				20-30 20-30	NP-5 NP-5
Vint		Loamy fine sand Loamy sand, loamy fine sand.	SM SM	A-2 A-2	0	95-100 95-100				==	N P N P
120* Laveen		Loam Loam, very fine sandy loam.			0	100 95-100	95-100 85-95			20-30 15-25	NP-10 NP-10

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES---Continued

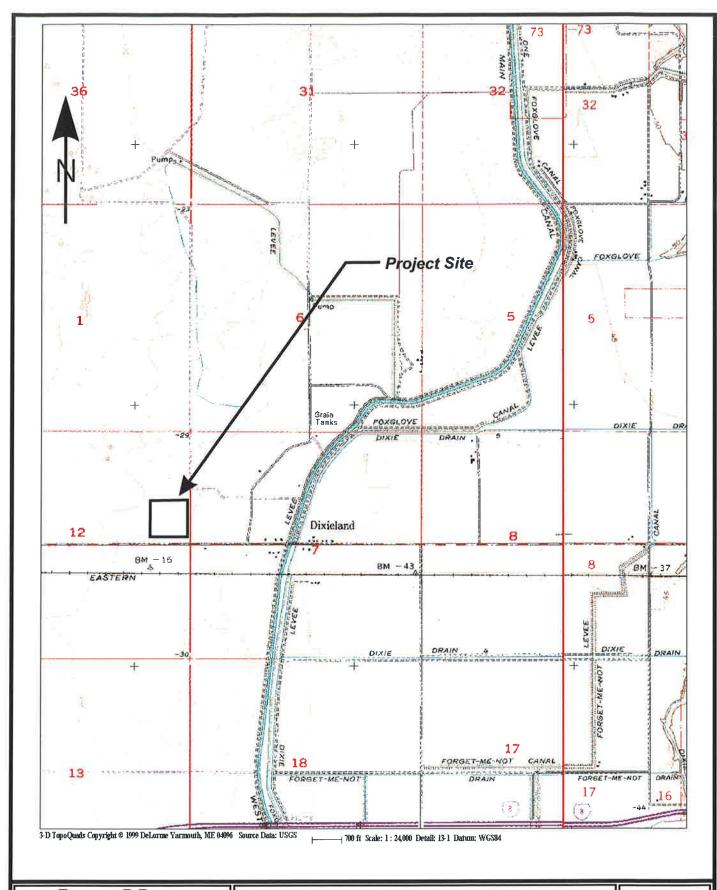
Soil name and	 Depth	USDA texture	-	lassif			Frag- ments	Pe	sieve r	e passi umber		Liquid	Plas- ticity
map symbol			Uni	ified	AASI		inches	Ц	10	40	200	limit	index
	In						Pet					Pot	
121 Meloland	0-12	Fine sand Stratified loamy fine sand to	SM,	SP-SM	A-2, A-4	A-3	0	95 - 100 1 100	90 - 100 100	75-100 90-100	5-30 50-65	25-35	NP NP-10
	1	silt loam.	CL,	СН	A-7		0	100	100	95-100	85-95	40-65	20-40
122			ML		A-4		0	95-100	95-100	95→100	55-85	25-35	NP-10
Meloland		loam. Stratified loamy fine sand to	ML		A-4		0	100	100	90-100	50 - 70	25-35	NP-10
	1	silt loam. Clay, silty clay, silty clay loam.	сн,	CL	A-7		0	100	100	95-100	85 - 95	40-65	20-40
123*: Meloland	112-26	Stratified loamy fine sand to			A-4 A-4		0 0	 95-100 100	95 - 100 100				NP-10 NP-10
		silt loam. Clay, silty clay, silty	сн,	CL	A-/		0	100	100	95-100	85-95	40-65	20-40
		clay loam. Stratified silt loam to loamy fine sand.	SM,	ML	A - 4		0	100	100	75-100	35-55	25 - 35	NP-10
Holtville	112-24 124-36	Clay, silty clay Silt loam, very fine sandy	¦CH,	CL	A-4 A-7 A-4		0	100	100	85-100 95-100 95-100		1 40-65	NP-10 20-35 NP-10
	36-60	loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A = 4	0	100	100	75-100	20-55		нР
124, 125 Niland	0-23	Gravelly sand Silty clay, clay, clay loam.	SM,	SP-SM CH	A-2, A-7	A-3	0	90-100	70 - 95 100				NP 20-40
126Niland	0-23	Fine sand Silty clay	SM,	SP-SM CH	A-2, A-7	A - 3	0		90-100			40-65	NP 20-40
127Niland	0-23	Loamy fine sand Silty clay	SM CL,	СН	A-2 A-7		0	90-100 100	90-100			40-65	NP 20-40
128*: Niland		Gravelly sand Silty clay, clay, clay loam.	SM,		A-2, A-7	A-3	0	90-100	70-95 100		5 - 25 80 - 100	40 - 65	NP 20-40
Imperial	0-12 12-60	Silty clay Silty clay loam, silty clay, clay.	CH		A-7 A-7		0	100	100	100 100	85-95 85-95	50-70 50-70	25-45 25-45
129*: Pits													
130, 131 Rositas	0-27	Sand	ISP-	SM	A-3, A-1 A-2	1	0	100	80-100	40-70	5-15		I NP
	27-60	Sand, fine sand, loamy sand.	ISM,	SP-SM		2,	0	100	80-100	140-85	5-30		N P

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and	Depth	USDA texture	1	ication	Frag- ments	F	ercenta sieve	ge pass number-		Liquid	Plas-
map symbol			Unified	AASHTO	> 3 inches	4	10	40	200	limit	ticit
	In				Pet	1	1		1	Pat	
132, 133, 134, 135- Rositas	0-9	Fine sand	ISM	A-2	0	100	180→100	150-80	110-25		NP
	9-60	Sand, fine sand, loamy sand.	SM, SP-SM		0	100	80-100	40-85	5-30		NP
136Rositas		Loamy fine sand Sand, fine sand, loamy sand.	SM, SP-SM	A-1, A-2 A-3, A-2, A-1	0	100 100	80-100 80-100		10-35		NP NP
137 Rositas	0-12	Silt loam Sand, fine sand, loamy sand.	ML ISM, SP-SM	A-4 A-3, A-2, A-1	0	100		90-100 40-85		20-30	NP-5 NP
138*: Rositas		Loamy fine sand Sand, fine sand, loamy sand.		A-1, A-2 A-3, A-2, A-1	0 0	100	80-100 80-100		10-35 5-30	=	NP NP
Superstition	6-60	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0 0		 95-100 95-100			==	NP NP
139 Superstition	0-6	Loamy fine sand Loamy fine sand, fine sand, sand.	SM SM	A-2 A-2	0	100 100	 95-100 95-100			=	NP NP
140*: Torriorthents											
Rock outcrop								I I			
141*: Torriorthents											
Orthids					. 3		i !				
142	0-10	Loamy very fine	SM, ML	A-4	0	100	100	85 - 95	40-65	15-25	NP-5
Vint		sand. Loamy fine sand	SM	A-2	0	95-100	! !95 - 100	70-80	120-30		ΝP
143 Vint	121		!	A-4	0	100		75-85	1	15-25	NP-5
	12-60	Loamy sand, loamy fine sand.	SM-SC SM	A-2	0	95 - 100	95-100	70-80	20-30		NΡ
44*:											
Vint		Very fine sandy loam.	4	A-4	0	100	100	85-95	40-65	15-25	NP-5
		Loamy fine sand Silty clay		A-2 A-7	0		95 ~ 100			40-65	NP 20-35
Indio		Very fine sandy	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
	12-40	loam. Stratified loamy very fine sand	ML	A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
		to silt loam. Silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

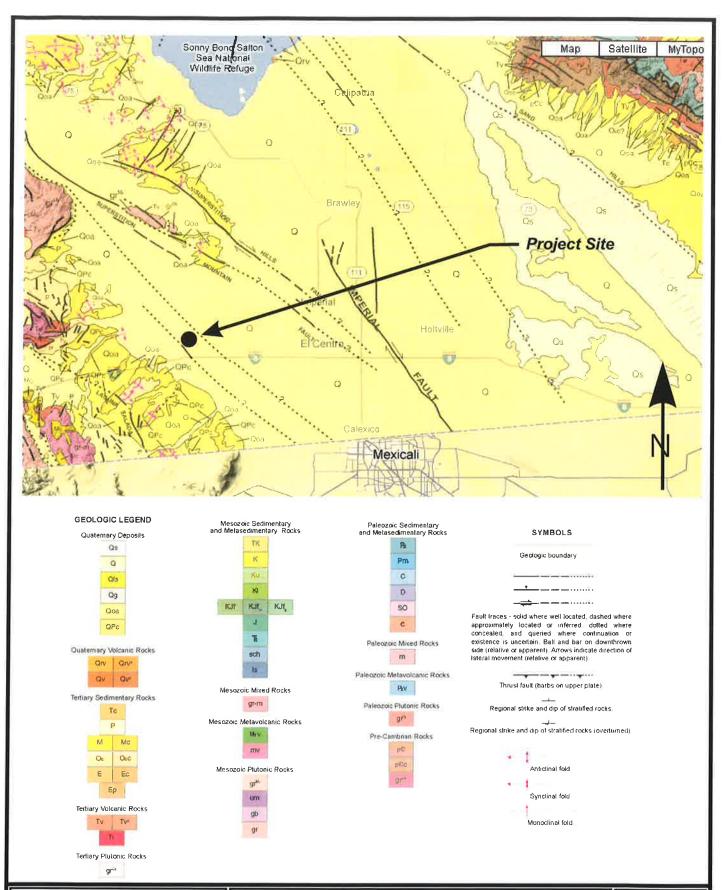
^{*} See description of the map unit for composition and behavior characteristics of the map unit.



LANDMARK
Geo-Engineers and Geologists
Project No.: LE15071

Topographic Map

Plate A-4





APPENDIX B

CLASS. BLOW COUNT POCKET	SHEET 1 OF 1 DESCRIPTION OF MATERIAL SILTY SAND (SM): Tan, moist, medium to fine grained sand. CLAYEY SILT (ML): Brown, moist, dense, some sands.	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
36	SILTY SAND (SM): Tan, moist, medium to fine grained sand.			
36	CLAYEY SILT (ML): Brown, moist, dense, some sands.			
		105.1	20.5	% passing #200 = 939 <2μ = 35 5%
38		108.7	4.7	
18	SILTY SAND (SM): Lt. brown, moist, medium dense, fine to medium grained, clay at tip of sampler			
71	saturated, very dense, fine to medium grained			
36	dense, fine grained			
94/10"				
47	1" clay layer			
86/8"	1" clay layer			
52				
82/11"	some thin clay layers			
	Total Depth = 51.5' Groundwater encountered at a depth of 44 ft. at time of drilling Backfilled with excavated soil			
		some thin clay layers Total Depth = 51.5' Groundwater encountered at a depth of 44 ft. at time of drilling Backfilled with excavated soil	some thin clay layers Total Depth = 51.5' Groundwater encountered at a depth of 44 ft. at time of drilling Backfilled with excavated soil	some thin clay layers Total Depth = 51.5' Groundwater encountered at a depth of 44 ft. at time of drilling

Approximately -20'

SURFACE ELEVATION:

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Geo-Engineers and Geologists

140 lbs.

HAMMER WT.:

PLATE B-1

30 in.

DROP:

I		FI	ELD		LOG OF BORING No. B-2	7		RATORY
DEPTH	SAMPLE	SS.	≥ Z	POCKET PEN. (tsf)	SHEET 1 OF 1	YT!S	MOISTURE CONTENT (% dry wt.)	
	SAM	USCS CLASS.	BLOW	POC	DESCRIPTION OF MATERIAL	DRY DENSITY (pcf)	MOIS CON' Work	OTHER TESTS
	•				SILTY SAND/SANDY SILT (SM/ML): Brown, dry to humid, fine to medium grained sand.			
5 —	1		68		SAND (SP-SM): Tan, humid, fine to coarse grained, very dense	101.4	4.5	Passing #200 = 7%
10 —	1		66			105.7	2.5	
15	Z		12		CLAYEY SANDY SILT (ML): Lt. brown, very moist, medium dense		16.3	% passing #200 = 64% <2μ = 15%
20 -								
25 —								
30								
35 —								
40								
45 —								
50								
55 —					Total Depth = 16.5' No groundwater encountered at time of drilling Backfilled with excavated soil			
DATE (DRILL	ED;	5/21/1	15	TOTAL DEPTH: 16.5 Feet	DEF	PTH TO W	ATER: NA
		': LEVATIO		Brucher	TYPE OF BIT: Hollow Stem Auger Approximately -20' HAMMER WT.: 140 lbs.	DIA DRO	METER: OP:	8 in. 30 in.

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PLATE B-2

I		FI	ELD		LOG OF BORING No. B-3			RATORY
DEPTH	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	SHEET 1 OF 1	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TEXTS
	SAI	USC	BLO	S F	DESCRIPTION OF MATERIAL	Pag DEN	NOO NOO NOO NOO NOO NOO NOO NOO NOO NOO	OTHER TESTS
5	•		33		SILTY SAND (SM): Lt. brown, dry to humid, fine to medium grained sand. some clay at top of sampler	100.0	1.6	
10 —	1		27		SILTY CLAY (CL): Brown, moist, stiff, trace sand.	102.1	22.4	LL=33% PI=17%
15 —	N		14		CLAYEY SILTY SAND (SM): Brown, saturated, medium dense, very fine to fine grained,			
20 —								
25 —								
30 —								
35 —								
40 -								
45 —								
50								
55					Total Depth = 16.5' No groundwater encountered at time of drilling Backfilled with excavated soil			
DATE I			5/21/1 P. Lat	l5 Brucher	TOTAL DEPTH: 16.5 Feet ie TYPE OF BIT: Hollow Stem Auger		PTH TO W	ATER: 15 ft. 8 in.

Approximately -20'

SURFACE ELEVATION:



140 lbs.

HAMMER WT.::

PLATE B-3

30 in.

DROP:

II		FII	ELD		LOG OF BORING No. B-4			RATORY
DEPTH	J'E	Ś	\ <u></u>	(ET	SHEET 1 OF 1	≥	URE Wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	DESCRIPTION OF MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
					SILTY SAND (SM): Lt. brown, dry to humid, fine to medium grained sand, some coarse sand.			
5	1		18		SILTY CLAY (CL): Brown, moist, stiff	99.7	14.9	c=0.88 tsf
10	•		48		SAND (SP-SM): Tan/orange, saturated, coarse to fine grained, dense	111.7	3.3	Passing #200 = 8.5%
15	7		20		very fine grained, medium dense			
20								
25								
30								
35								
40								
45								
50								
55					Total Depth = 16.5' Groundwater encountered at 14.5 feet at time of drilling Backfilled with excavated soil			
60								
DATE D			5/21/		TOTAL DEPTH: 16.5 Feet		PTH TO W	
LOGGE				Brucher /	TYPE OF BIT: Hollow Stem Auger Approximately -20' HAMMER WT.: 140 lbs	DIA DR	METER:	8 in. 30 in.

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PLATE B-4

SS				LOG OF BORING No. B-5	LABORATORY					
MPLE	SS \SS.	WC TNU	CKET N. (tsf)	SHEET 1 OF 1	, USITY	STURE NTENT Jry wt.)	OTHER TEATS			
SA	US(BLC	S.F.	DESCRIPTION OF MATERIAL	(pcf)	ON ON ON	OTHER TESTS			
•				SILTY SAND (SM): Lt. brown, dry to humid, fine to coarse grained sand, some fine gravel.						
3		31		SILTY CLAY (CL): Brown, moist, stiff, interbedded with sand	100.4	23.4	c=1.82 tsf			
•		20		SANDY SILT (ML): Brown, moist, medium dense, very fine grained sand	100.7	24.9	% passing #200 = 86% <2μ = 15%			
7		22		SILTY SAND (SM): Lt. brown, very moist, fine to very fine grained, medium dense						
				Total Depth = 16.5' No groundwater encountered at time of drilling Backfilled with excavated soil						
	SAMPLE	SAMPLE SAMPLE CLASS.	31	31	DESCRIPTION OF MATERIAL SILTY SAND (SM): Lt. brown, dry to humid, fine to coarse grained sand, some fine gravel. 31 SILTY CLAY (CL): Brown, moist, stiff, interbedded with sand SANDY SILT (ML): Brown, moist, medium dense, very fine grained sand SILTY SAND (SM): Lt. brown, very moist, fine to very fine grained, medium dense Total Depth = 16.5' No groundwater encountered at time of drilling	SILTY SAND (SM): Lt. brown, dry to humid, fine to coarse grained sand, some fine gravel. 31 SILTY CLAY (CL): Brown, moist, stiff, interbedded with sand 20 SANDY SILT (ML): Brown, moist, medium dense, very fine grained sand 100.7 SILTY SAND (SM): Lt. brown, very moist, fine to very fine grained, medium dense Total Depth = 16.5' No groundwater encountered at time of drilling	SILTY SAND (SM): Lt. brown, dry to humid, fine to coarse grained sand, some fine gravel. 31 SILTY CLAY (CL): Brown, moist, stiff, interbedded with sand 23.4 SANDY SILT (ML): Brown, moist, medium dense, very fine grained sand 31 SILTY SAND (SM): Lt. brown, very moist, fine to very fine grained, medium dense 22 Total Depth = 16.5' No groundwater encountered at time of drilling			

SURFACE ELEVATION: Approximately -20'

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HAMMER WT.:

140 lbs.

PLATE B-5

30 in.

DROP:

DEFINITION OF TERMS

PRIMARY DIVISIONS

SYMBOLS

SECONDARY DIVISIONS

	Gravels	Clean gravels (less	0.0.0	GW	Well graded gravels, gravel-sand mixtures, little or no fines
	More than half of	than 5% fines)		GP	Poorly graded gravels, or gravel-sand mixtures, little or no fines
	coarse fraction is larger than No 4	Gravel with fines		GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines
Coarse grained soils More	sieve	Graver with lines	1/2	GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines
that No 200 sieve	Sands	Sands Clean sands (less		sw	Well graded sands, gravelly sands, little or no fines
	More than half of	than 5% fines)		SP	Poorly graded sands or gravelly sands, little or no fines
/ · · · · · · · · · · · · · · · · · · ·	coarse fraction is smaller than No 4	Sands with fines		SM	Silly sands, sand-silt mixtures, non-plastic fines
	siève	Salius Will filles	1/4	sc	Clayey sands, sand-clay mixtures, plastic fines
	Silts an	d clays		ML	Inorganic silts, clayey silts with slight plasticity
	Liquid limit is l	ess than 50%		CL	Inorganic clays of low to medium plasticity, gravely, sandy, or lean clays
Fine grained soils More than half of material is smaller	Elquid IIIII (6) II	500 triair 50 %		OL	Organic silts and organic clays of low plasticity
than No 200 sieve	Silts an	d clays		МН	Inorganic silts, micaceous or diatomaceous silty soils, elastic silts
	Liquid limit is m	ore than 50%	1/1	СН	Inorganic clays of high plasticity, fat clays
	Equiu IIIII Is II	1016 than 50%	99	ОН	Organic clays of medium to high plasticity, organic silts
Highly organic soils			***	PT	Peat and other highly organic soils

GRAIN SIZES

Silts and Clays		Sand			Gravel	Cobbles	Boulders
Sills and Glays	Fine	Medium	Coarse	Fine	Coarse	Cobbles	Boulders
	200	40 10	- A	-	W.	311 4.011	

US Standard Series Sieve

Clear Square Openings

Sands, Gravels, etc.	Blows/ft. *
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

Clays & Plastic Silts	Strength **	Blows/ft. *
Very Soft	0-0 25	0-2
Soft	0 25-0 5	2-4
Firm	0 5-1 0	4-8
Stiff	1 0-2 0	8-16
Very Sliff	2 0-4 0	16-32
Hard	Over 4 0	Over 32

- * Number of blows of 140 lb. hammer falling 30 inches to drive a 2 inch O D (1 3/8 in 1 D) split spoon (ASTM D1586)
- ** Unconfined compressive strength in tons/s f as determined by laboratory testing or approximated by the Standard Penetration Test (ASTM D1586), Pocket Penetrometer, Torvane, or visual observation

Type of Samples:

Ring Sample

Standard Penetration Test

I Shelby Tube

Bulk (Bag) Sample

Drilling Notes:

1 Sampling and Blow Counts

Ring Sampler - Number of blows per foot of a 140 lb hammer falling 30 inches Standard Penetration Test - Number of blows per foot Shelby Tube - Three (3) inch nominal diameter tube hydraulically pushed

2 P P = Pocket Penetrometer (tons/s f)

NR = No recovery.

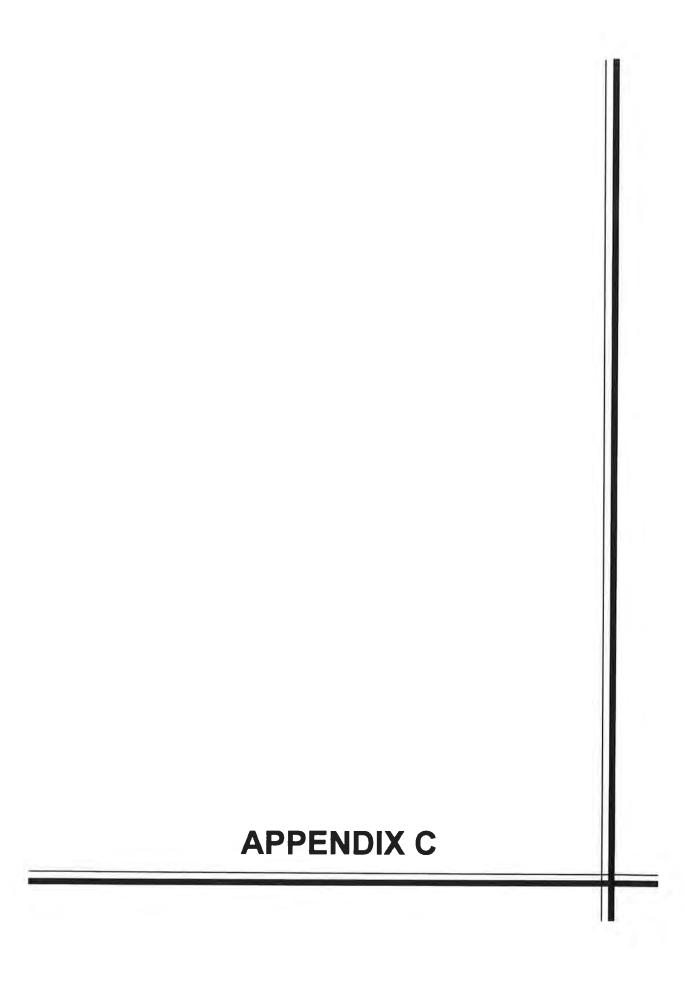
4. GWT = Ground Water Table observed @ specified time

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Project No. LE15071

Key to Logs

Plate B-6



CLIENT: SEPV Imperial, LLC

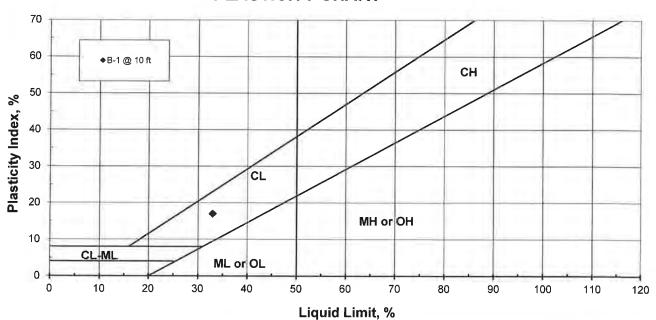
PROJECT: Dixieland West Solar Farm - Seeley, CA

JOB No.: LE15071 DATE: 06/11/15

ATTERBERG LIMITS (ASTM D4318)

Sample Location	Sample Depth (ft)	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	USCS Classification	
B-1	10	33	16	17	CL	-

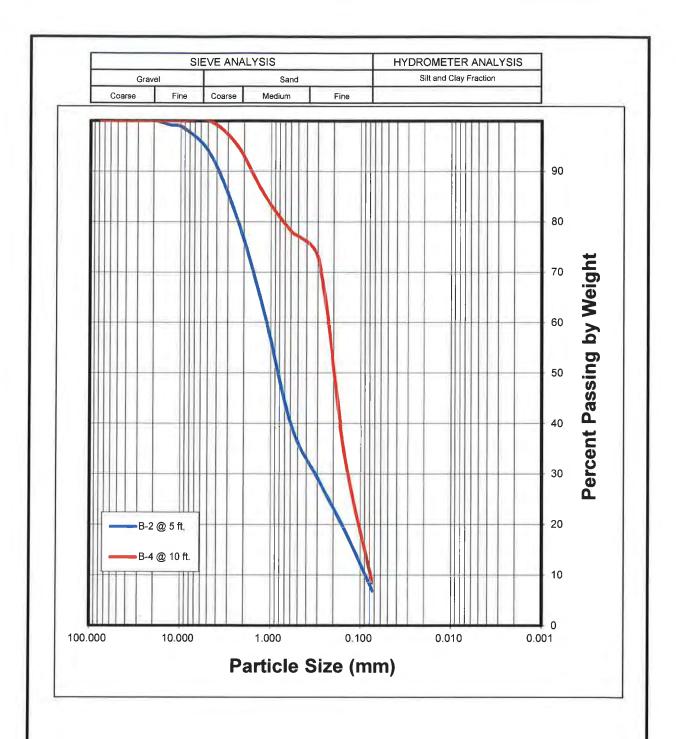
PLASTICITY CHART



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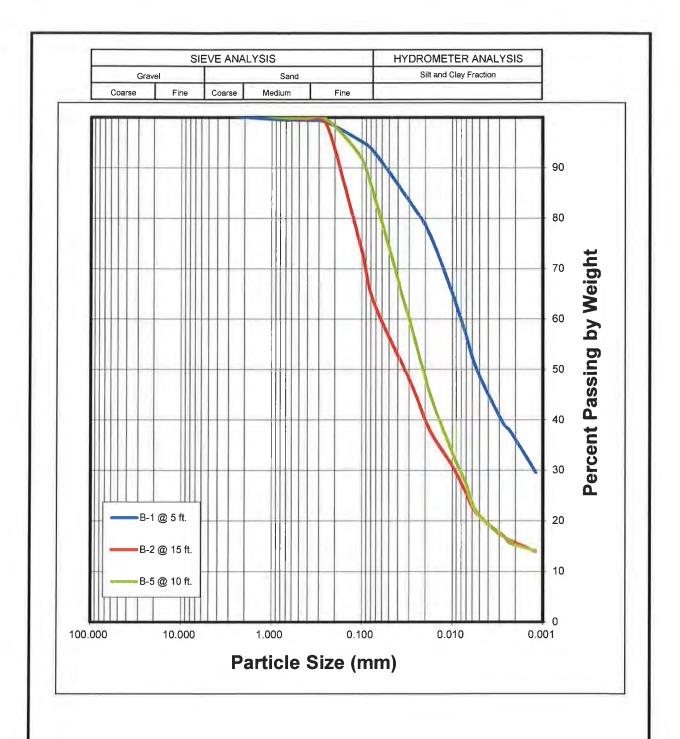
Project No.: LE15071

Atterberg Limits
Test Results





Grain Size Analysis





Grain Size Analysis

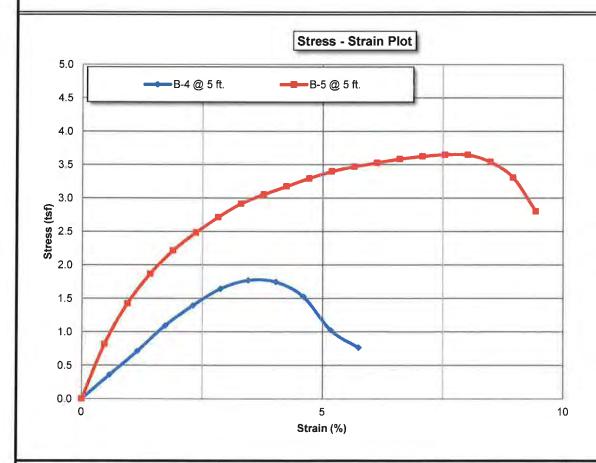
CLIENT: SEVP Imperial, LLC

PROJECT: Dixieland West Solar -- Seeley, CA

JOB NO: LE15071 **DATE**: 6/9/2015

UNCONFINED COMPRESSION TEST (ASTM D2166)

Boring No.	Sample Depth (ft)	Natural Moisture Content (%)	Unit Dry Weight (pcf)	Maximum Compressive Strength (tsf)	Cohesion (tsf)	Failure Strain (%)	
B-4	5	14.9	99.7	1.77	0.88	3.4	
B-5	5	23.4	100.4	3.65	1.82	7.5	





Project No.: LE15071

Unconfined Compression
Test Results

CLIENT: SEPV Imperial, LLC

PROJECT: Dixieland West Solar Project

PROJECT No: LE15071

DATE: 6/8/2015

DIRECT SHEAR TEST - INSITU (ASTM D3080)

SAMPLE LOCATION: B-1 @ 10 ft

SAMPLE DESCRIPTION: Sandy Clayey Silt (ML)

Angle of Internal Friction:

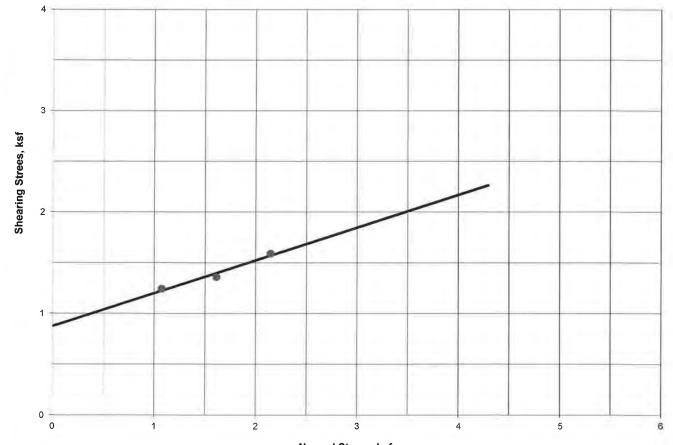
Initial Dry Density: 108.7 pcf

Cohesion: 0.88 ksf

Initial Moisture Content:

4.7%

DIRECT SHEAR TEST RESULTS



Normal Strees, ksf

Geo-Engineers and Geologists **PROJECT No: LE15071**

Direct Shear Test Results

CLIENT: SEPV Imperial, LLC

PROJECT: Dixieland West Solar Project

PROJECT No: LE15071

DATE: 6/9/2015

DIRECT SHEAR TEST - INSITU (ASTM D3080)

SAMPLE LOCATION: B-2 @ 5 ft

SAMPLE DESCRIPTION: Silty Sand (SM)

Angle of Internal Friction:

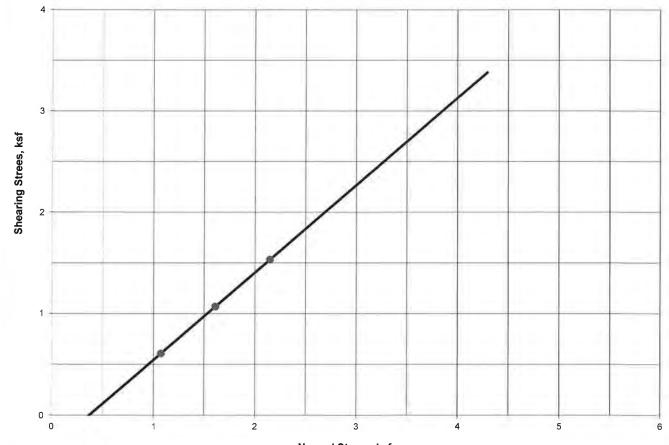
Initial Dry Density: 101.4 pcf

Cohesion: 0 ksf

Initial Moisture Content:

4.5%

DIRECT SHEAR TEST RESULTS



Normal Strees, ksf

Geo-Engineers and Geologists **PROJECT No: LE15071**

Direct Shear Test Results

CLIENT: SEPV Imperial, LLC

PROJECT: Dixieland West Solar Project

PROJECT No: LE15071 **DATE:** 6/10/2015

DIRECT SHEAR TEST - INSITU (ASTM D3080)

SAMPLE LOCATION: B-3 @ 5 ft

SAMPLE DESCRIPTION: Sand (SP)

Angle of Internal Friction:

23°

Initial Dry Density:

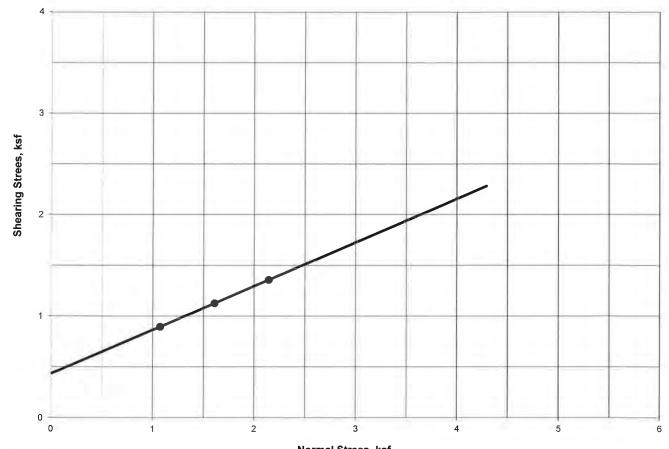
100 pcf

Cohesion: 0.43 ksf

Initial Moisture Content:

1.6%

DIRECT SHEAR TEST RESULTS



Normal Strees, ksf

Geo-Engineers and Geologists **PROJECT No: LE15071**

Direct Shear Test Results

CLIENT: SEPV Imperial, LLC

PROJECT: Dixieland West Solar Farm - Seeley, CA

JOB No.: LE15071 DATE: 06/11/15

CHEMICAL ANALYSIS	

Boring: Sample Depth, ft:	B-1 0-5	B-2 0-5	B-5 0-5	Caltrans Method
рН:	8.6	8.7	8.1	643
Electrical Conductivity (mmhos):	0.66	0.55	1.02	424
Resistivity (ohm-cm):	1100	880	350	643
Chloride (CI), ppm:	520	220	1,150	422
Sulfate (SO4), ppm:	122	375	154	417

General Guidelines for Soil Corrosivity

Material	Chemical	Amount in	Degree of
Affected	Agent	Soil (ppm)	Corrosivity
Concrete	Soluble	0 - 1,000	Low
	Sulfates	1,000 - 2,000	Moderate
		2,000 - 20,000	Severe
		> 20,000	Very Severe
Normal	Soluble	0 - 200	Low
Grade	Chlorides	200 - 700	Moderate
Steel		700 - 1,500	Severe
		> 1,500	Very Severe
Normal	Resistivity	1 - 1,000	Very Severe
Grade		1,000 - 2,000	Severe
Steel		2,000 - 10,000	Moderate
		> 10,000	Low



Project No.: LE15071

Selected Chemical Test Results

Client: SEPV, LLC

Project: Dixieland Solar West

Project No.: LE15071

Date: 6/9/2015

Lab. No.: EC15-418

Soil Description: Poorly Graded Fine Sand

Sample Location: B-1 @ 0 to -5'

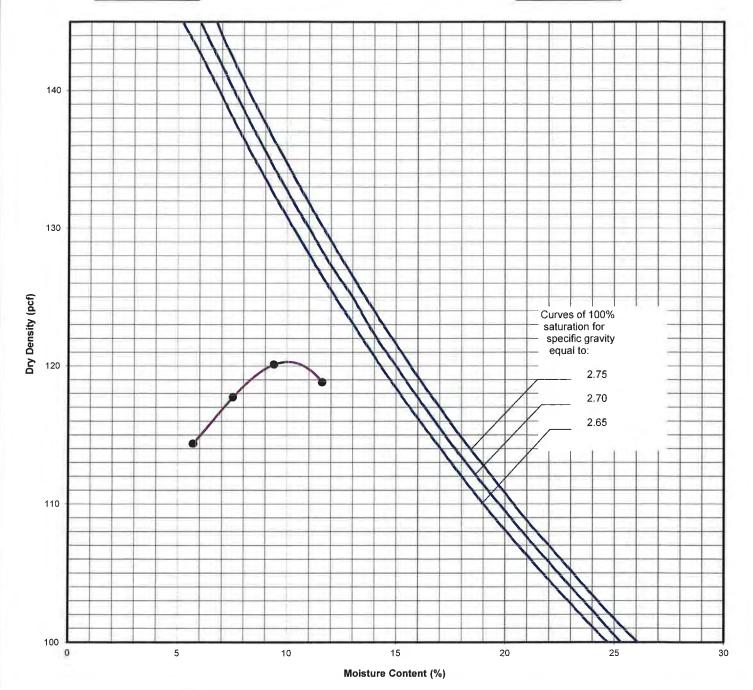
Test Method: ASTM D-1557 A

Maximum Dry Density (pcf):

120.5

Optimum Moisture Content (%):

10.0



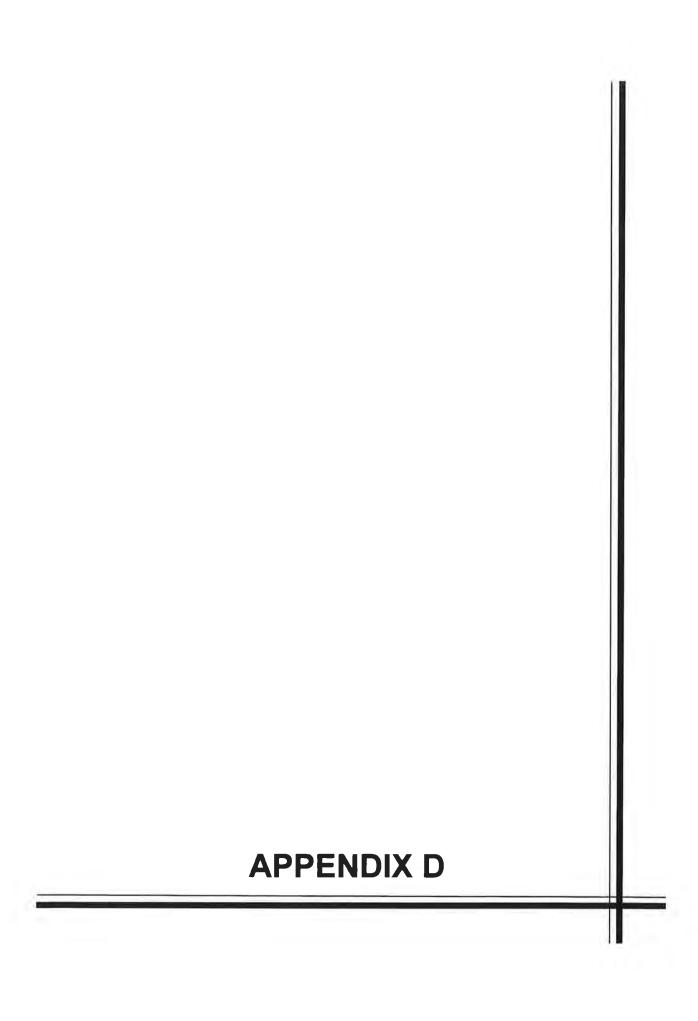
LANDMARK
Geo-Engineers and Geologists

Project No.: LE15071

Moisture Density Relationship

Plate

C-9



Liquefaction Evaluation and Settlement Calculation

Project Name: Dixieland West Solar Farm -- Seeley, CA

Project No.: LE15071 Location: B-1

 Maximum Credible Earthquake
 7

 Design Ground Motion
 0 50 g

 Total Unit Weight,
 110 pcf

 Water Unit Weight,
 62 4 pcf

 Depth to Groundwater
 14 ft

 Hammer Effenciency
 90

 Required Factor of Safety
 1.3

			Boring Da	ita				5	ampling Corr	ections			Corrected	Fines	SPT Clean	Cyclical	Cyclical	Factor	Volumetric	Induced
D	epth	Blov	w Counts	Liquefiable	Overburden	Sampler	SPT	Energy	Borehole	Rod	Liner	Overburden	SPT	Content	Şands	Resistance	Stress	of	Strain (%)	Subsidence
(ft)	(m)	SPT	Mod Cal	Soil (0 / 1)	Pressure	Diameter	N _m	C _E	C _B	CR	C	C _N	(N ₁) ₈₀	%	(N ₁) _{60CS}	CRR _{M7.5}	CSR	Safety		(inch)
6	1 83		36	0	660	0.67	24	1.50	1_0	0.75	1	1.70	46	35	60		0 321	Non-Lig	0.00	0.00
11	3 35		38	0	1210	0.67	25	1 50	1.0	0.80	1	1,32	40	93	53		0.318	Non-Liq.	0.00	0.00
16	4 88	18		0	1635	11_	18	1.50	1.0	0.85	1	1.14	26	93	36		0.338	Non-Lig	0.00	0.00
21	6 40		71	0	1873	0.67	48	1.50	1.0	0.95	1	1.06	72	30	88		0.382	Non-Liq	0 00	0.00
26	7 92	36		0	2111	1	36	1.50	1,0	0.95	1	1,00	51	30	64		0.413	Non-Lig.	0.00	0.00
31	9 45		100	0	2349	0.67	67	1.50	10	0.95	1	0.95	91	30	109		0 432	Non-Lig	0.00	0.00
36	10 97	47		0	2587	1	47	1 50	1.0	1.00	1	0.90	64	30	78	11	0.439	Non-Liq	0.00	0.00
41	12 50		100	0	2825	0.67	67	1.50	10	1 00	1	0.87	87	30	105		0.437	Non-Lig	0.00	0.00
46	14 02	52		0	3063	1	52	1.50	1.0	1.00	1	0.83	65	30	80		0.426	Non-Lig.	0.00	0.00
51	15 54		100	0	3301	0.67	67	1_50	1.0	1_00	1	0.80	80	30	98		0.410	Non-Liq	0.00	0.00
	0.00			0	0	0.67	0	1.50	10	#N/A	1	#DIV/0!	#N/A	7.8	#N/A	#N/A	#DIV/0!	#N/A	0.00	-
	0.00			0	0	0.67	0	1.50	10	#N/A	1	#DIV/0!	#N/A	74	#N/A	#N/A	#DIV/0!	#N/A	0.00	
	0,00			0	0	0.67	0	1.50	1.0	#N/A	1	#DIV/0!	#N/A	95	#N/A	#N/A	#DIV/0!	#N/A	0.00	J Samuel I
	0 00			0	0	0.67	0	1_50	1.0	#N/A	1	#DIV/0!	#N/A	95	#N/A	#N/A	#DIV/0!	#N/A	0.00	

Based on Proceeding of the NCEER Workshop on Evaluation of Liquefaction Resistance of Soils, Technical Report NCEER-97-0022, December 31, 1997

Corrections to SPT (Modified from Skempton, 1986) as listed by Robertson and Wride

Factor	Equipment Variable	Term	Correction
Overburden Pressure		CN	(P _a /σ _{VO}) ^{0.5}
			C _M <=2
Energy Ratio	Donut Hammer	CE	0 5 to 1 0
	Safety Hammer		07 to 12
	Automatic-trip Donut type Hammer		0.8 to 1.3
Borehole Diameter	2 6 inch to 6 inch	C _B	1
6	6 inch		1 05
	B inch		1.15
Rod Length	10 feet to 13 feet	C _R	0.75
	13 feet to 19 8 ft		0 85
	19 8 ft to 33 ft	10	0.95
	33 ft to 98 ft	1	1
	> 98 ft		<1.0
Sampling Method	Standard Sampler	CL	1
	Sampler without liners		1.1 to 1.3

Total Settlement

0.00

Seismic Settlement Calculation

Project Name: Dixieland west Solar Farm -- Imperial County, CA

Project No.: LE15071 Location: B-1

 Maximum Credible Earthquake
 7

 Design Ground Motion
 0 50 g

 Total Unit Weight,
 105 pcf

 Water Unit Weight,
 62 4 pcf

 Depth to Groundwater
 20 ft

 Hammer Effenciency
 90

 Rod Length
 3

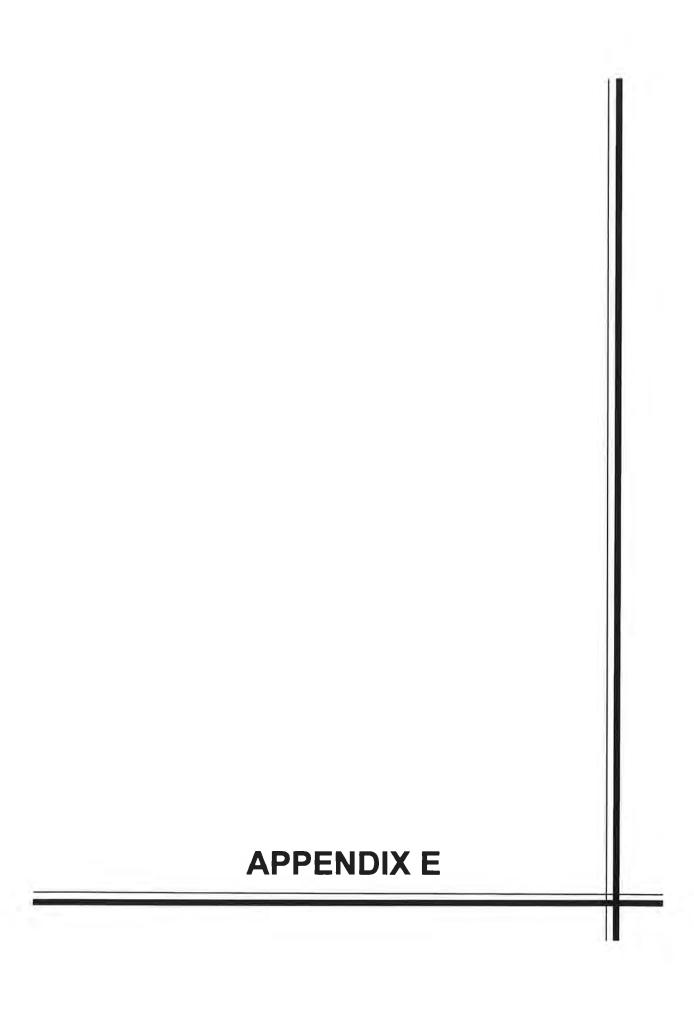
Mod. Cal	SPT	DEPTH (ft.)	THICKNESS (ft.)	Susceptible	O-PRESS	N1(60)	Fine Content	N ₁₆₆₀ CS	n	Gmax	Shear Strain Gam- eff	E15	Enc	Settlement (in.)	TOTAI
36		5	5	l	0.26	43.4	93	57	0.176	722	2.17E-04	6.17E-05	5.33E-05	0.01	(111.)
38		10	5	1 1	0.53	38.6	90	51	0.352	985	3.05E-04	9.85E-05	8.51E-05	0.01	
	18	15	5		0.79	29.7	35	41	0.528	1116	4.20E-04	1.80E-04	1,55E-04	0.02	
71		20	5		1.05	62.9	35	80	0.704	1617	3.06E-04	5.78E-05	5.00E-05	0.01	
	36	25	5	0	1.31	52.5	35	68	0.879	1709					
100		30	5	0	1.58	77_5	35	98	1.055	2115					
	47	35	5	0	1.84	58.8	35	75	1.231	2095					
100		40	5	0	2.10	67.1	35	85	1.407	2334					
	52	45	5	0	2.36	57.4	35	74	1.583	2358					
100		50	5	0	2.63	60.0	35	77	1.759	2520					
	100														
			4	11											
	15.11.13											Y			0.04

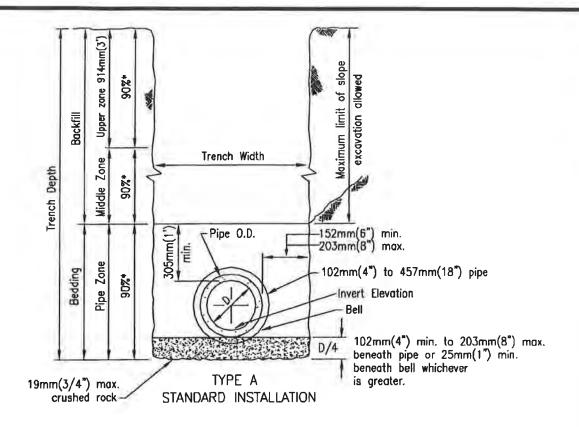
Nc

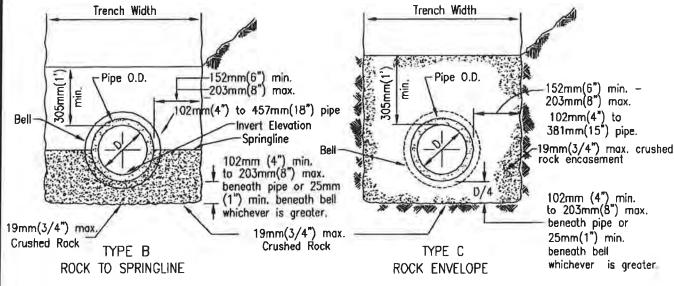
10.8

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- (4) Pradel, Daniel, 1998. JGEE, Vol. 124, No. 4, ASCE
- (5) Seed, et.al., 2003, Recent Advances in Soil Liquefaction Engineering: A Unified and Consistent Framework. University of California, Earthquake Engineering Research Center Report 2003-06, 71 p.



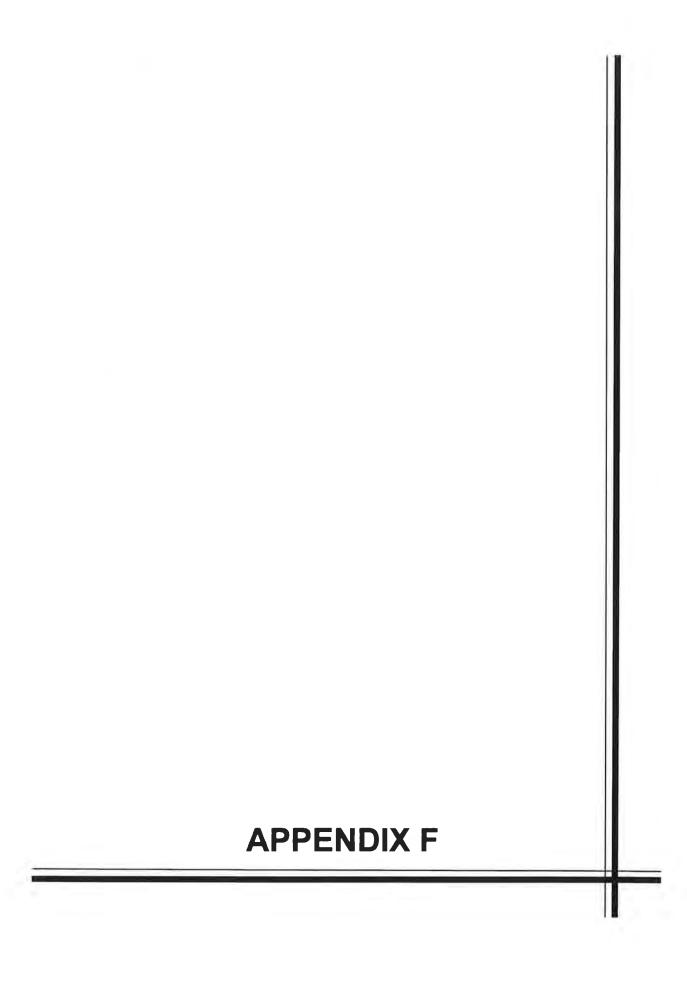




NOTES

- 1. For trenching in improved streets, see Standard Drawings G-24 or G-25 for trench resurfacing.
- 2. (*) indicates minimum relative compaction.
- 3. Minimum depth of cover from the top of pipe to finish grade for all sanitary sewer installations shall be 914mm(3') For cover less than 914mm(3'), see Standard Drawing S-7 for concrete encasement.
- 4. See Type A installation for details not shown for Types B and C.







June 16, 2015

Steve Williams Landmark Consultants 780 N. 4th Street El Centro, California 92243

SUBJECT: DIXIELAND SOLAR WEST - THERMAL RESISTIVITY DATA SUMMARY **REPORT**

RFYeager Engineering Project No.: 15083

Dear Steve.

On June 16, 2015, RFYeager Engineering conducted laboratory thermal resistivity testing on one soil sample for the Dixieland Solar West project. The cylindrical sample, as prepared by Landmark, had a dimension of 2½ inch (diameter) by 6 inch (length). The sample is identified as LE15071 EC15-418.

The thermal resistivity was determined using a Decagon KD2 Pro Portable Thermal Properties Analyzer (KD2 Pro) outfitted with the 100 mm long, 2.4 mm diameter TR-1 sensor. Testing was conducted in general accordance with the standard method ASTM D5334-08 which calculates thermal resistivity by monitoring the dissipation of heat from a line heat source. The test consists of inserting a thermal sensor into the soil sample with a known current and voltage applied. The thermal resistivity is obtained from an analysis of the time series temperature data during the heating and cooling cycle of the sensor. The corresponding temperature rise in the soil over a period of time is recorded

The soil thermal resistivity is provided in Table 1 below. The corresponding Time vs. Temperature graph for the sample is provided in Appendix A. For purposes of this report, the thermal resistivity value is provided as "data only" in order to assist others in the project design.

Dixieland Solar West - Soil Thermal Resistivity

Date: June 16, 2015

Page 2 of 2

Table 1 – Dixieland Solar West								
Soil Thermal	Soil Thermal Resistivity Data							
Prepared by: RF	Yeager Engineering							
Sample ID	Thermal Resistivity ¹ (C-cm/W)							
LE15071 EC15-418	125.1							

^{1 -} ASTM D5334-08.

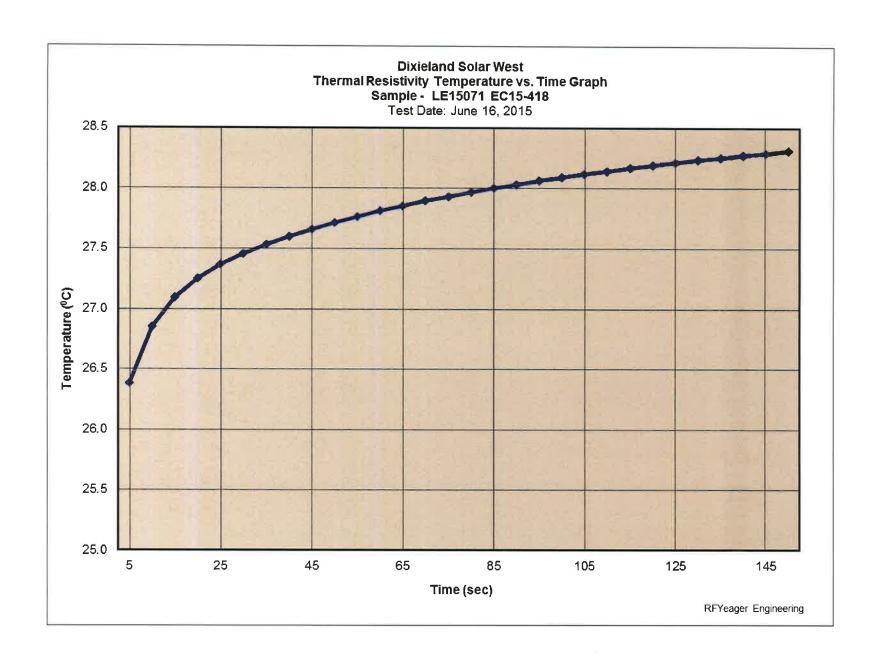
Thank you for this opportunity to provide our professional services. Please call if you have any questions.

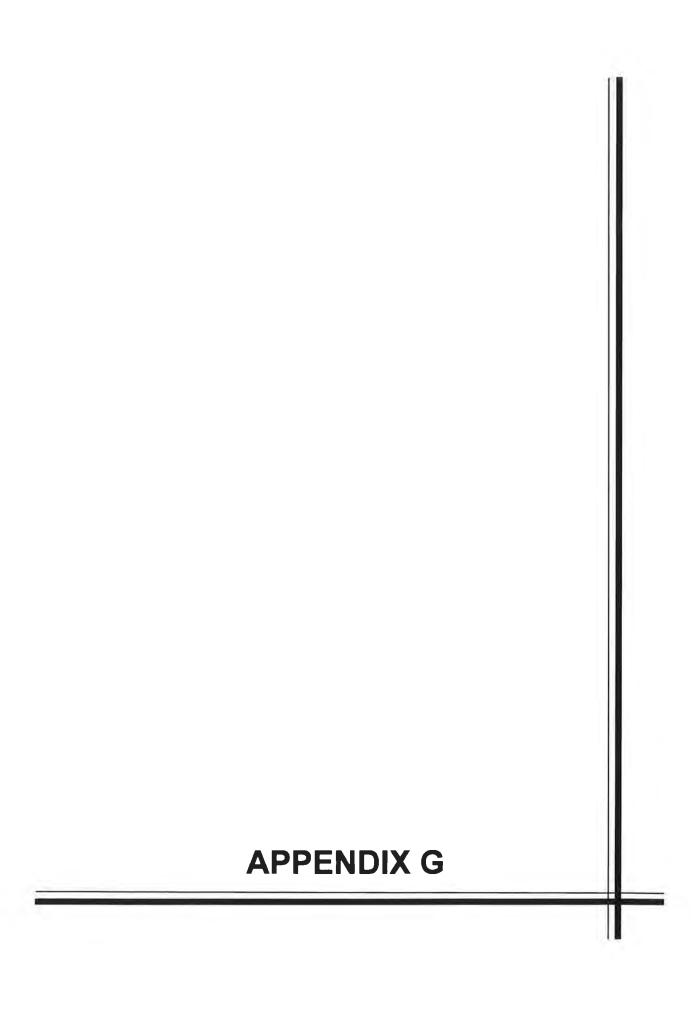
With best regards,

Randy J. Geving, PE

Registered Professional Engineer - Corrosion No.1060

APPENDIX A THERMAL RESISTIVITY CURVE





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Phase I ESA Report

Dixieland West Solar Project

Brown Road and Even Hewes Highway Seeley, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Boulevard, Suite 414 Los Angeles, CA 90049





Prepared by:

GS Lyon Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 337-1100

April 2015



Engineering And Information Technology

April 28, 2015

Mr. Freeman Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

Phase I Environmental Site Assessment Report
Dixieland West Solar Project
Evan Hewes Highway ¼ Mile West of Brown Road
West of Seeley, California
GSL Report No. GS1505

Dear Mr. Hall:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located north of Evan Hewes Highway ½ mile west of Brown Road west of Seeley, California. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. This assessment has not revealed any recognized environmental conditions (RECs) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this site.

No. 31921 EXPIRES 12-31-16

Respectfully Submitted,

GS Lyon Consultants, Inc.

Jeffrey O. Lyon, P.E.

Principal Engineer

Randy O. Lyon

Environmental Technician

Dixieland West Solar Project <u>Evan Hewes Hwy West of Brown Road – West of Seeley, CA</u> <u>GSL Report No. GS1505</u>

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APPENDICES

Appendix A:	Site Photographs
Appendix B:	Geologic and Soils Maps
Appendix C:	Historical Aerial Photographs
Appendix D:	Sanborn Fire Insurance Maps
Appendix E:	EDR Environmental Records Search Report
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Appendix G:	Resumes of Environmental Professionals

1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by SEPV Imperial, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject site in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The subject property is located north of Evan Hewes Highway ¼ mile west of Brown Road west of Seeley, California (See Figure 1 for a Vicinity Map of the subject property).

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject site or in the immediate site vicinity in general conformance to ASTM Standard E-1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "all appropriate inquiry" into the previous ownership and uses of the subject site as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E 1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review existing Phase I ESA reports
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard Practice E 1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made every effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the site and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the site. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E 1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E 1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties. Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject site. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No data failures were encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E 1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject site. However, based on other historical information reviewed, the subject site has been vacant desert. Therefore, this data gap is not considered to be significant.

1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the site and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of SEPV Imperial, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from SEPV Imperial, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The subject parcel is located north of Evan Hewes Highway ¼ mile west of Brown Road (APN 034-390-026) in Imperial County approximately 5 miles west of Seeley, California. The site location is depicted in Appendix B, Plate 2-Site Map.

2.2 Current Property Use and Description

The subject property is desert land with no signs of past uses on the site. The south property boundary contains both a Fiber Optic Cable along the north side of Evan Hewes Highway and a Pac Bell Telephone Cable (AT&T) along the dirt trail on the north side of Evan Hewes Highway.

2.3 Adjoining Property Use

Properties surrounding the subject site consist of vacant desert land to the north and south across Evan Hewes Highway. The site is bounded to the west by open desert lands with the Imperial Lakes development beyond, which is homes surrounding man-made water-ski lakes. An Imperial Irrigation District electrical substation and a rural private residence abut the subject site to the east.

2.4 Physical Site Characteristics

<u>Topography</u>: Topographic maps (USGS 7.5 minute Plaster City, CA Quadrangle) indicate that the elevation of the site is approximately 20-30 feet below mean sea level (Elevation 980-970 local datum). The Imperial Irrigation District (IID), which supplies power to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The site is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northwest by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The site is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake beds, which consist of interbedded lenticular and tabular sand, silt, and clay. The highstand of Lake Cahuilla is at Elevation 45. The predominant surface soil is silty sand. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea (approximately 45 miles north).

<u>Soil Conditions</u>: The U. S. Soil Conservation Service compiled a map of surface soil conditions based on a thirteen-year study from 1962-1975. The Soil Survey maps were published in 1981 and indicate that surficial deposits at the sites and surrounding area consist predominantly of sandy loams of the Indio/Vent, Rositas, Meloland and Niland soil group (see Plate 3 and soil descriptions in Appendix B). These loams and sands are formed in sediment and alluvium of mixed origin (Colorado River overflows, Mountain run-off and fresh-water lake-bed sediments). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils ranges from high to medium.

<u>Groundwater Conditions</u>: The groundwater in the site area is brackish and is estimated to be at a depth of greater than 25-30 feet below the ground surface. Depth to groundwater may fluctuate due to localized geologic conditions, precipitation, irrigation, drainage and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the east within the site area. Flow directions may also vary locally in the vicinity of the site.

3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the site.
- Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or reasonably ascertainable information about the property.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject site for environmental conditions. The completed user questionnaire is provided in Appendix E.

3.1 Title Records

GS Lyon was provided with preliminary title documents by SPEV Imperial for review for the presence of environmental liens and activity and use limitations on the.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the preliminary title documents and user questionnaire, there are no Environmental Liens or Activity and Use Limitations associated with the subject site that have been filed or recorded under federal, tribal, state or local law.

3.3 Specialized Knowledge

According to the User Questionnaire, SEPV Imperial does not have specialized knowledge or experience related to the subject site or surrounding properties.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owner that comprises the subject site is:

(034-390-026) Jane H. Dickens Trustee 3004 Solito St. Davis, CA 95616

3.7 Previous Reports and Other Provided Documentation

No record of a Phase I Environmental report being performed on the subject site have been found by or presented to GS Lyon personnel.

4.0 RECORDS REVIEW

A review of historic topographic maps (Appendix B), historic aerial photographs (Appendix C), and governmental regulatory databases (Appendix D) was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the site. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM Practice E 1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the Standard. The purpose of the records review is to obtain and review

reasonably ascertainable records that will help identify recognized environmental conditions or historical recognized environmental conditions in connection with the subject site.

EDR's Phase I ESA search package was ordered and performed on April 8, 2015. The search package included: Radius Map report, Sanborn Fire Insurance Map report and historic aerial photographs.

The results of EDR's search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map report. The government record search report is included in its entirety in Appendix D.

Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject site. The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject site.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within ½ mile of the subject site.

Federal CERCLIS - No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the site has been completed and the EPA has determined that no further steps will be taken to list this site on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within ½ mile of the subject site.

Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject site. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action". A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject site.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject site.

No RCRA generator facilities within ½ mile of the subject site were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject site.

The ERNS database searches did not identify any reported releases for the subject site.

California Department of Toxic Substances Control Sites (CALSITES)

The Department of Toxic Substances Control (DTSC) CALSITES database contains potential or confirmed hazardous substance release properties.

The CALSITES database did not identify any risk sites within 1 mile of the subject site.

Hazardous Waste and Substance Sites List (CORTESE)

The California EPA, Office of Emergency Information maintains a database which identifies risk sites that are designated by the California State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS) and the Department of Toxic Substances Control (DTSC).

The CORTESE database did not identify any risk sites within ½ mile of the subject site.

Solid Waste Landfill Facilities

The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF database did not identify risk sites within ½ mile of the site.

Underground Storage Tank Sites

The California State Water Resources Control Board (SWRCB) underground storage tank (UST) inventory list was reviewed to determine if any UST's are located on or adjacent to the subject site.

The SWRCB UST database did not identify any risk sites within \(^{1}\)4 mile of the subject site.

Leaking Underground Storage Tank Sites

The California SWRCB maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject site.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject site.

Hazardous Waste Information System (HAZNET) Sites

The Hazardous Waste Information System (HAZNET) database identifies manifests that have been issued for a property.

The HAZNET database did not identify the subject site as a risk site.

Unmapped (Orphan) Sites

Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard.

One orphan listing was reported. The orphan site listed is US Gypsum Co. which is located on Evan Hewes Highway, approximately 3.75 miles west of the subject site. Therefore, the listed orphan site does not pose a risk to the subject site.

4.1.2 Additional Environmental Record Sources

<u>CUPA Records Search</u>: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The local Department of Toxic Substances Control (DTSC) Imperial Certified Unified Program Agency (CUPA) office was contacted on April 7, 2015 concerning hazardous substance releases for the project site and proximal properties. Ms. Veronica Lopez responded to our inquiry that CUPA did not have any records for the site.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps,

property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs.

Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

Preliminary title document were provided by SEPV Imperial for review for the presence of environmental liens and activity and use limitations on the property. No environmental liens or activity and use limitations were noted in the title documents.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the sites and vicinity, Sanborn Fire Insurance Maps do not cover the subject site. An "unmapped property" report is included in Appendix D.

4.2.3 Aerial Photographs

Aerial photographs provided by EDR in April 2015 from various sources (US Army, NASA, USGS, EDR) dating back to 1949 were reviewed for historical development of the subject site. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1949, 1953, 1978, 1984, 1996, 2002, 2006 and 2010 aerial photographs show the site as undeveloped desert land. The Dixieland Schoolhouse was located adjacent to the east of the site prior to 1949 (likely in the 1920's). An IID electrical substation has been located to the east of the site from at least 1978.

4.2.4 Historic Topographic Maps

The 1957 and 1976 USGS 7.5 Min. Plaster City, CA Quadrangle topographic maps do not show development on the project site.

4.3 **Historical Use Summary**

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the subject property was vacant desert land from 1949 to present.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of vacant desert lands. The IID electrical substation can be seen from 1978 to present adjacent to the east of the subject site. The Centinela State Prison was built in approximately 1989 to the northeast of the subject site. Imperial Lakes (residential dwellings and man-made water-ski lakes) was built in approximately the early 1990's to the west of the site.

5.0 SITE RECONNAISSANCE

5.1 **Methodology and Limiting Conditions**

A site reconnaissance was performed by Mr. Randy Lyon, an environmental professional of GS Lyon, on April 7, 2015. The site visit consisted of driving the perimeter of the site and randomly crossing the site. The reconnaissance included visual observations of surficial conditions at the site and observation of adjoining properties to the extent that they were visible from public areas. Mr. Lyon was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior of the subject property improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items.

The site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on our site visit.

5.2 General Site Setting

The subject property is desert land with no signs of past uses on the site. The south property boundary contains both a Fiber Optic Cable along the north side of Evan Hewes Highway and a Pac Bell Telephone Cable (AT&T) along the dirt trail on the north side of Evan Hewes Highway.

Photographs of the sites taken on April 7, 2015 during our site reconnaissance visit are included in Appendix A.

5.3 Adjacent Properties

Properties surrounding the subject site consist of vacant desert land to the north and south across Evan Hewes Highway. The site is bounded to the west by vacant desert lands with Imperial Lakes beyond, which is a residential area with man-made water-ski lakes. An Imperial Irrigation District electrical substation and a rural private residence bound the east side of the site.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

No hazardous substances or petroleum products were noted on the subject site.

5.4.2 Storage Tanks

<u>Underground Storage Tanks (USTs)</u> – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

<u>Aboveground Storage Tanks (ASTs)</u> – No above ground storage tanks were noted.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject site.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject site.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

Pole-mounted sealed electrical transformers owned and maintained by the Imperial Irrigation District (IID) are located at the subject site. The IID has replaced all transformers that contained PCB's. No leaks were noted during our site visit.

5.5 **Interior Observations**

The subject property is currently vacant with no structures onsite.

5.5.1 Heating/Cooling

The subject property is currently vacant with no structures onsite.

5.4.2 Stains or Corrosion

No evidence of stains or corrosion was noted on the subject property.

5.4.3 Drains and Sumps

No evidence of drains or sumps was noted on the subject property.

5.6 **Exterior Observations**

5.6.1 Pits, Ponds, and Lagoons

No evidence of pits and/or lagoons was noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

5.6.4 Solid Waste

No debris piles were noted on the subject property.

5.6.5 Wastewater

No wastewater was noted as being generated on the subject property.

5.6.6 Wells

There were no wells noted on the subject property.

5.6.7 Septic Systems

There were no septic systems noted on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

There is low risk of asbestos containing materials (ACM) existing at the subject property due to the lack of development on the subject property.

5.7.2 Lead-Based Paint

The risk of lead based paint existing at the subject property is low due to the lack of development on the subject property.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, no further action is required. Radon gas is not believed to be a potential hazard at the site.

5.7.4 Wetlands

According to the EDR Report, there are no wetlands within one (1) mile of the subject property. Imperial Lakes (man-made water-ski lakes) is located about ¼ mile to the west of the site.

5.7.5 Agricultural Use

Based on our review of environmental records, historical documents, and site conditions, the property has never been used as agricultural land.

5.7.6 Flood Zones

A majority of the subject site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual recurrence floodplain (FIRM Panel 06025C0950C).

6.0 INTERVIEWS

GS Lyon interviewed individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the site. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 **Interview with Local Government Officials**

The local Department of Toxic Substances Control (DTSC) Imperial Certified Unified Program Agency (CUPA) office was contacted on April 7, 2015 concerning hazardous substance releases for the project site and proximal properties. Ms. Veronica Lopez responded to our inquiry that CUPA did not have any records for the site address.

7.0 EVALUATION

7.1 Summary of Findings

The subject property has been vacant desert lands since 1949.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located north of Evan Hewes Highway ¼ mile west of Brown Road in Imperial County approximately 5 miles west of Seeley, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report.

7.2.1 Recognized Environmental Conditions

A recognized environmental condition (REC) refers to the presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions that do not present a threat to human health and/or the environment and that would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies. **This assessment has not revealed any RECs associated with the subject property.**

7.2.2 Historical Recognized Environmental Conditions

A historical recognized environmental condition (HREC) refers to an environmental condition which would have been considered a REC in the past, but which is no longer considered a REC based on subsequent assessment or regulatory closure. This assessment has not revealed any HRECs for the subject site:

7.2.3 Environmental Concerns and De Minimis Conditions

This Phase I ESA has revealed no *de minimis* conditions or environmental concerns in connection with the subject site.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

8.0 REFERENCES

- 40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).
- American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 35 pp.
- Environmental Data Resources, Inc., *The EDR Radius Map*. Inquiry number 4257825.2s April 8, 2015.
- Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Number 13089C0069J, dated May 16, 2013
- United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, September 2013
- United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA- 402-R-93-071), accessed via the Internet, September 2013

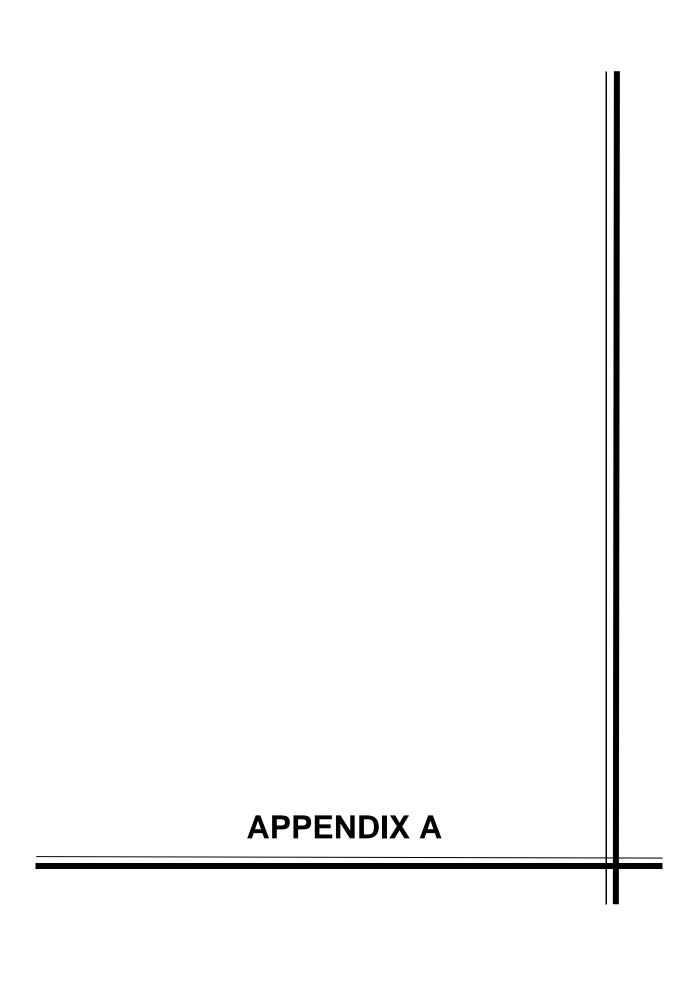




Photo 1: Subject site looking north along the east boundary of the site from the southwest corner of the IID electrical substation.



Photo 2: Subject site looking south along east boundary of the site from the southwest corner of the IID electrical substation.



Photo 3: Subject site looking west from the east boundary of the site.



Photo 4: Subject site looking west along the north boundary of the site.



Photo 5: Subject site looking south from the north boundary of the site.



Photo 6: Subject site looking north along the west boundary of the site.



Photo 7: Subject site looking east along the southern boundary of the site.



Photo 8: Subject site looking at the Pac Bell (AT&T) underground box located on the southern boundary of the site, the line runs parallel to dirt road on north side of Even Hewes Highway.



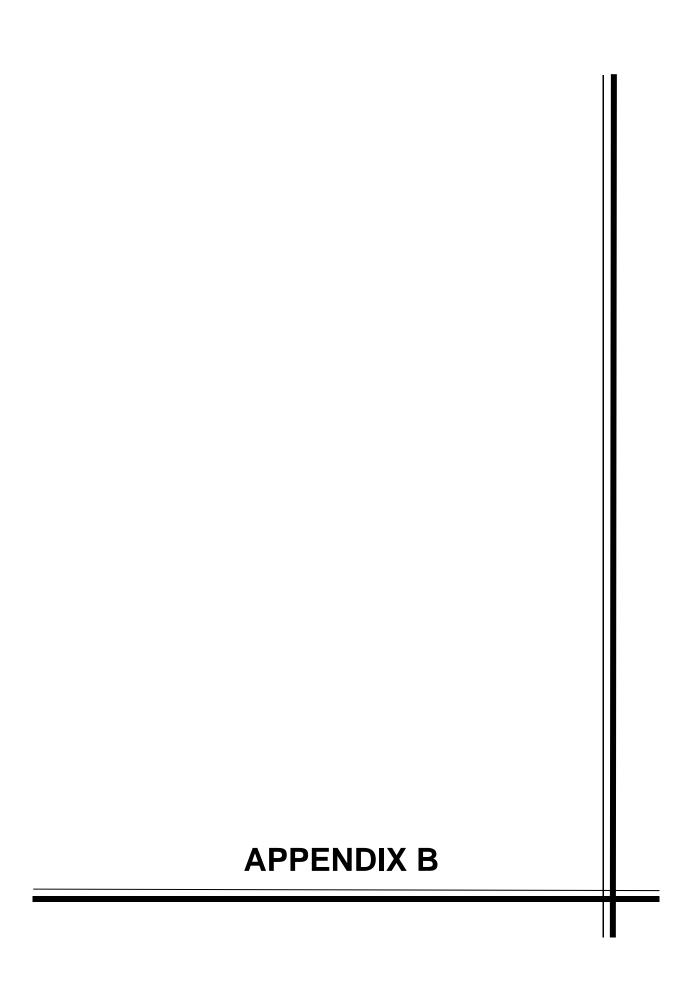
Photo 9: Subject site looking at the underground utility marker located on the southern boundary of the site, the line runs parallel to dirt road on north side of Even Hewes Highway.

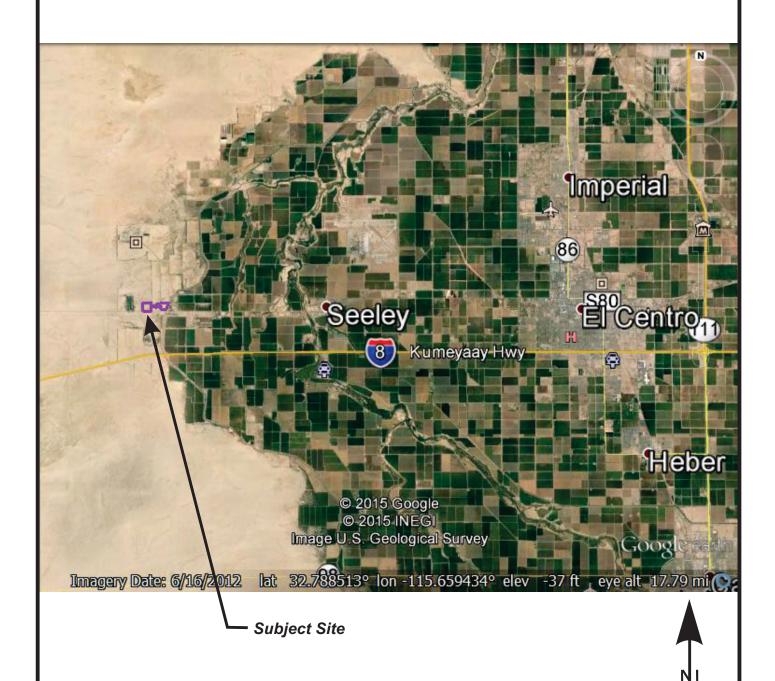


Photo 10: Subject site looking at Fiber Optic Cable line that runs along the north side and parallel to Even Hewes Highway



Photo 11: Subject site looking northwest from the southeast corner of the site.

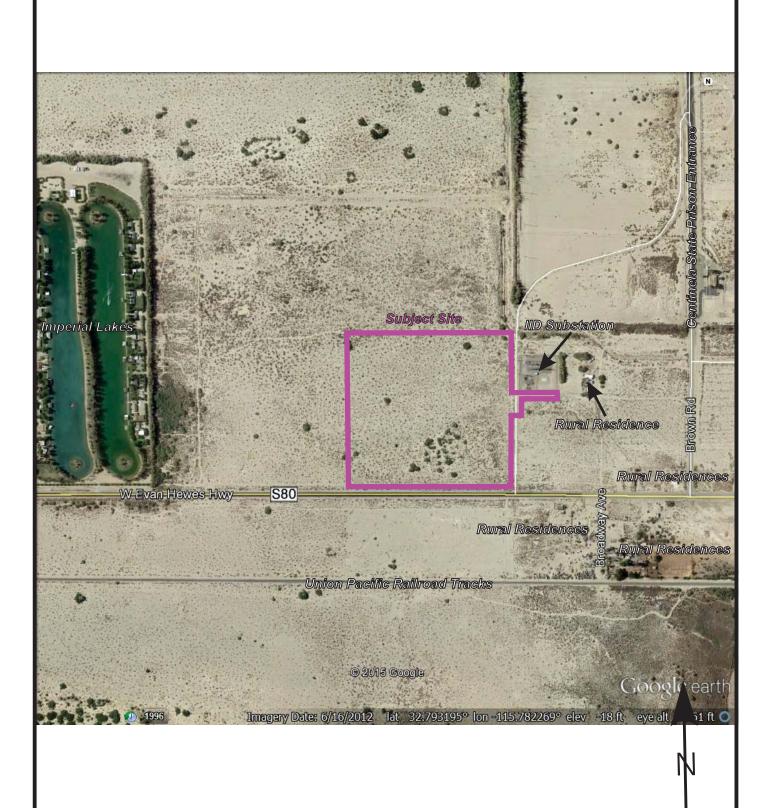




Vicinity Map

Plate

1

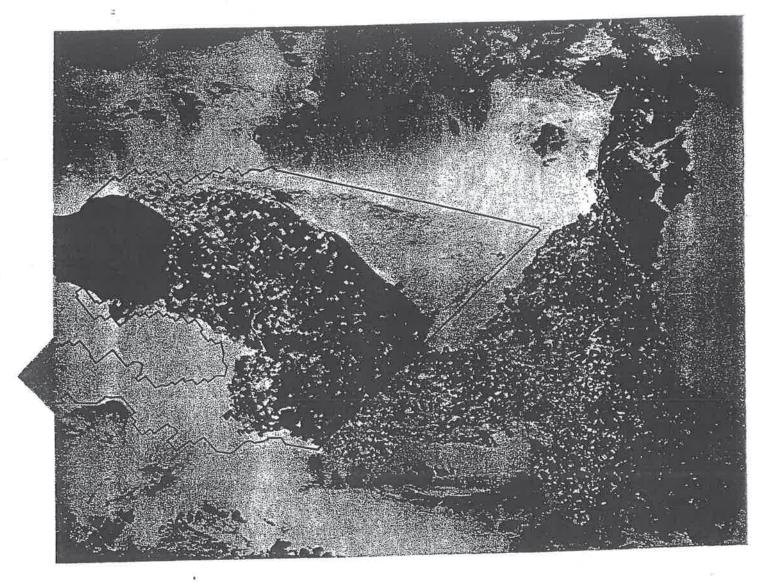


Site Map



Soil Survey Map

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and

Imperial Irrigation District

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

			Cl	assif:	catio	n	Frag- ments	Pe	sieve r	ge passi number	ng	Liquid limit	Plas tici
Soil name and map symbol	Depth	USDA texture	Uni	fied	AASH	TO I	> 3 inches	4	10	40	200	Pot	inde
00	<u>In</u> 0-13 13-60	Loamy fine sand Sandy loam, fine sandy loam.	SM SM		A-2 A-2, A-4		O O	100 90-100	100 75 - 95	75-85 50-60	10-30 15-40		N P N P
01*: Antho	8-50		SM SM		A-2 A-2, A-4		0	100 90-100	75-95	50-60	15-40		N P N P
Superstition	0-6		SM		A-2 A-2		0	100	95-100 95-100	70-85 70-85	15-25 15-25		N P N P
02*. Badland 03 Carsitas	0-10	Gravelly sand Gravelly sand, gravelly coarse sand, sand.	SP,	SP-SM SP-SM	A-1, A-1	A-2	0-5 0-5	60-90 60-90	50-85 50-85	30-55 25-50	0-10		N P N P
04* Fluvaquents 05 Glenbar	113-00	iclay loam, pricy	CL		A-6 A-6		0	100 100	100 100	90-100 90-100	70-95 70 - 95	35-45 35-45	15- 15-
	 0-13 13-60	clay loam. Clay loam Clay loam, silty	CL		A-6,	A-7 A-7	0	100	100	90-100 90-100	 70-95 70-95	35-45 35-45	15- 15-
07*	í	clay loam.	ML,	-ML,	A-4		0	100	100	100		20-30	NP≖
Gleupan	113-60	Clay loam, silty clay loam	CL		A-6,	A-7	0	100		95-100	1	35-45	15-
08Holtville	0-14	!		СН	A-4 A-7 A-4		0	100 100 100	100	85-100 95-100 95-100	85 - 95 65 - 85	40-65 25-35	
09 Holtville	117-24	 Silty clay Clay, silty clay Silt loam, very	وطما	CH CH	A-7 A-7 A-4		0	100 100 100	100 100 100	95-100 95-100 95-100	185-95	40-65 40-65 25-35	20- 20- NP-
	35-60	fine sandy loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A-4	0	100	100	75-100			NI
10 Holtville	117-26	 Silty clay Clay, silty cla Silt loam, very	A ! PIT 1	CL	A-7 A-7 A-4		0	100 100 100	100 100 100	195-100	85-95 85-95 155-85	40-65 40-65 25-35	20- 20- NP-
	35-60	fine sandy loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A-1	0	100	100	75-100	20-55		N

See footnote at end of table

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

	[Classif	ication	Frag-	Per	centag	e passi umber	115	Liquid	
Soil name and map symbol	Depth	USDA texture	Unified	AASHTO	> 3 inches	4	10	40	200	11mit	ticit index
11°: Holtville	110-22	Silty clay loam Clay, silty clay Silt loam, very	ich, ca	A-7 A-7 A-4	Pct 0 0 0	100 100 100	100 1	95-100 95-100 95-100	85-95	40-65 40-65 25-35	20-35 20-35 NP-10
	0 17	fine sandy loam. Silty clay loam Silty clay loam, silty clay,	CL	A-7 A-7	0	100	100	100	85-95 85-95	40-50 50-70	10-20 25-45
112 Imperia ¹	12-60	Silty clay loam, silty clay,	CH CH	A -7 A -7	0 0	100	100		85-95 85-95	50-70 50-70	25-45 25-45
113 Imperial	12-60	clay, silty	СН '	A-7 A-7	0	100 100	100 100		85-95 85-95	50-70 50-70	25-4° 25-4°
114Imperial	0-12	clay loam. 	сн сн	A-7 A-7	0	100 100	100		85 - 95 85 - 95	50-70 50-70	25-4 25-4
115*: Imperial	0-12 12-60		CL CH	A-7 A-7	0	100 100	100		85-95 85-95	40-50 50-70	10-2 25-4
Glenbar	0-13	clay. Silty clay loam Clay loam, silty clay loam,	CL	A-6, A-7 A-6, A-7	0	100 100	100	90-100 90-100	70-95 70-95	35-45 35-45	15-2 15-2
116*: Imperial	0-13 13-60	silty clay,	CL CH	A - 7 A - 7	0	100 100	100 100		85-95 85-95	40-50 50-70	10-3 25-4
Glenbar	0-13	clay. Silty clay loam Clay loam, silt	GL CL	A-6, A-7	0	100	100 100	90-100 190-100	70-95 170-95	35-45 35-45	15-
117, 118 Indio	0-12		y 111L	A - 4 A - 4	0	95-100 95-100	95-100 95-100	85-100 85-100	75-90 75-90	20-30 20-30	NP-
119*: Indio	- 0-1 12-7	2 Loam	A LIII	A - 4 A - 4	0	95-100 95-100	95-100 95-100	85-100 85-100	75-90 75-90	20-30	NP-
Vint	- 0-1 10-6		SM SM	A-2 A-2	0	95-100 95-100	95-100	70-80	20-30		9 N P
120* Laveen	0-1 12-6		ML, CL-	46 A-4 46 A-4	0	100 95-100	95-100 185-95	75-85 70-80	55-65 55-65	20-30 15-25	NP-

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

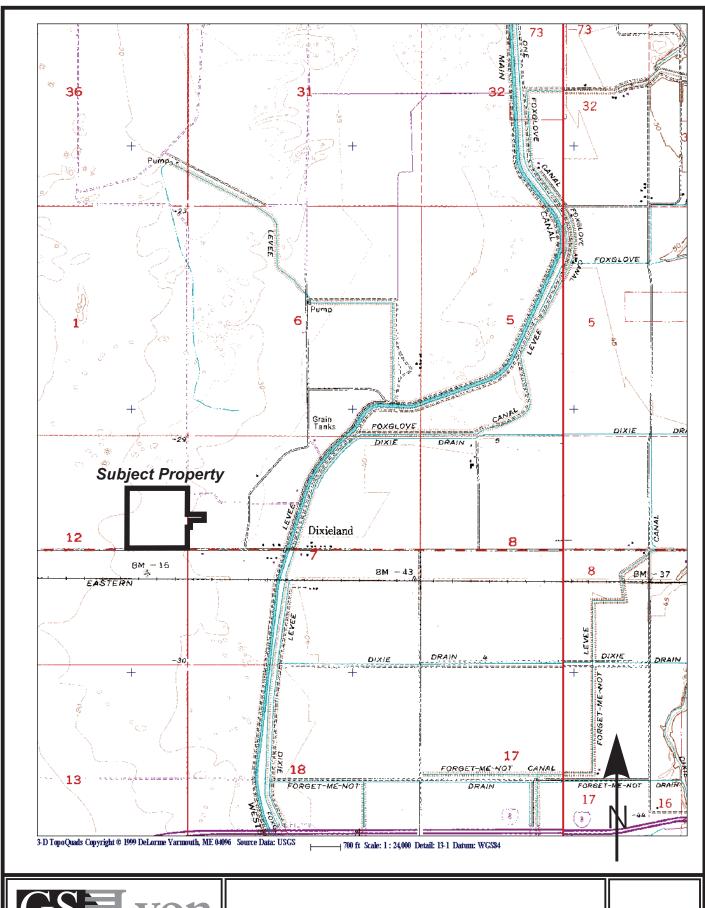
	Classific					Pe	rcentag sieve n	e passi umber	ng	Liquid	Plas-
Soil name and map symbol	Depth	USDA texture	Unified	AASHTO	ments > 3 inches	4	10	40	200	limit Pet	ticity index
	In			i	Pet						N.P
121 Meloland	0-12	Fine sand Stratified loamy	SM, SP-SM ML	A-2, A-3	0	95-100 100	90 -100 100	75-100 90-100	5-30 50-65	25-35	NP-10
	26-71	clay, silty	GL, CH	A-7	0	100	100	95-100	85~95	40-65	20-40
		clay loam.	MI	A-4	0	95-100	95-100	95-100	55 - 85	25-35	NP-10
22 Meloland	10	loam . Stratified loamy	1	A-4	0	100	100	90-100	50-70	25-35	NP-10
	12	fine sand to	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
23*: Meloland	0-12 12-26		ML ML	A - 4	0	95 - 100	95-100 100	95-100 90-100	55-85 50-70	25-35 25-35	NP-10 NP-10
	26-38	silt loam. Clay, silty	CH, CL	A-7	0	100	100	95-100	85 - 95	40-65	20-40
		clay, silty clay loam. Stratified silt loam to loamy	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville	12-24	Silt loam, very	1011, 00	A-4 A-7 A-4	0 0	100 100 100	100	85-100 95-100 95-100	185-95	25-35 40-65 25-35	NP-10 20-35 NP-10
÷		fine sandy loam, Loamy very fine sand, loamy		A-2, A-4	0	100	100	75-100	 20 – 55 		ЯP
24, 125 Niland	121-00	fine sand. Gravelly sand Silty clay, clay, clay loam.	SM, SP-S CL, CH	A-2, A-3	0		100	85=100 	80-95	40-65	мР 20-40
20	0-23	Fine sand Silty clay	SM, SP-S	M A-2, A-3	0	i	100	85-100	180-95	40-65	NP 20-40
Niland 27Niland	0 22	I .	SM	A-2 A-7	0	90-100	90-100 100	50-65 85-100	15-30 80-95	40-65	NP 20-40
128*: Niland	0-23 23-60	 Gravelly sand Silty clay, clay, clay loam.	SM, SP-S	M A-2. A-	0 0	90-100	70 - 95	50-65 85-100	5-25 80-100	40-65	NP 20-40
Imperial	0-12		CH CH	A-7 .	0 0	100	100	100	85-95 85-95	50-70 50-70	25-45 25-45
129*: Pits					. 0	100	80-100	40-70	5-15		ИР
130, 131 Rositas	i	Sand, fine sand,	1	A-3, A-1, A-2, A-2, A-1	0	1	80-100		l		NР

See footnote at end of table.

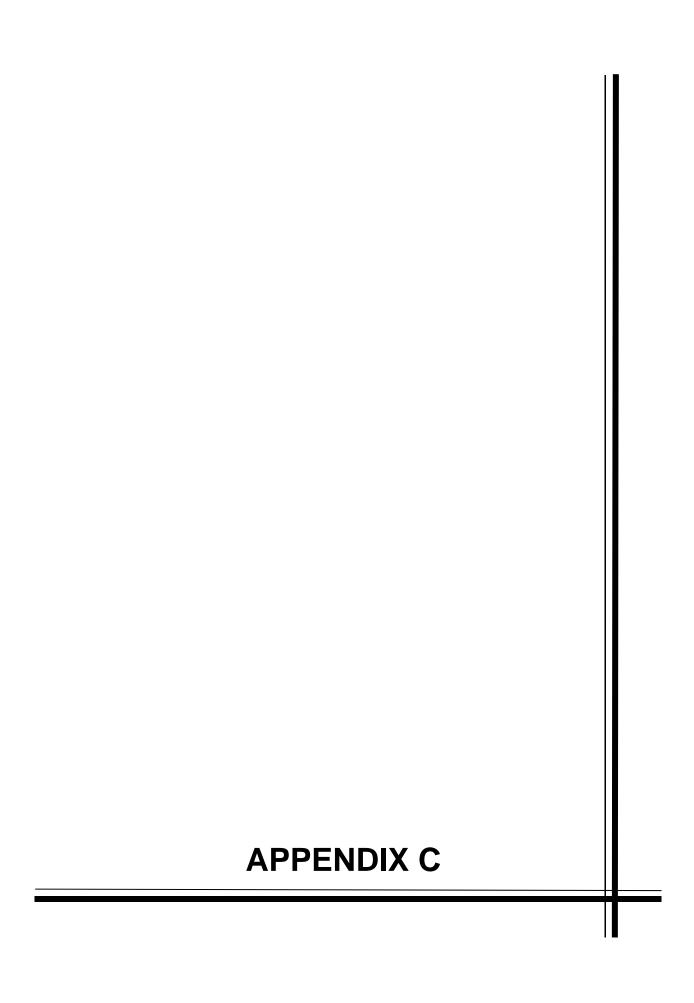
TABLE 11.--ENGINEERING INDEX PROPERTIES---Continued

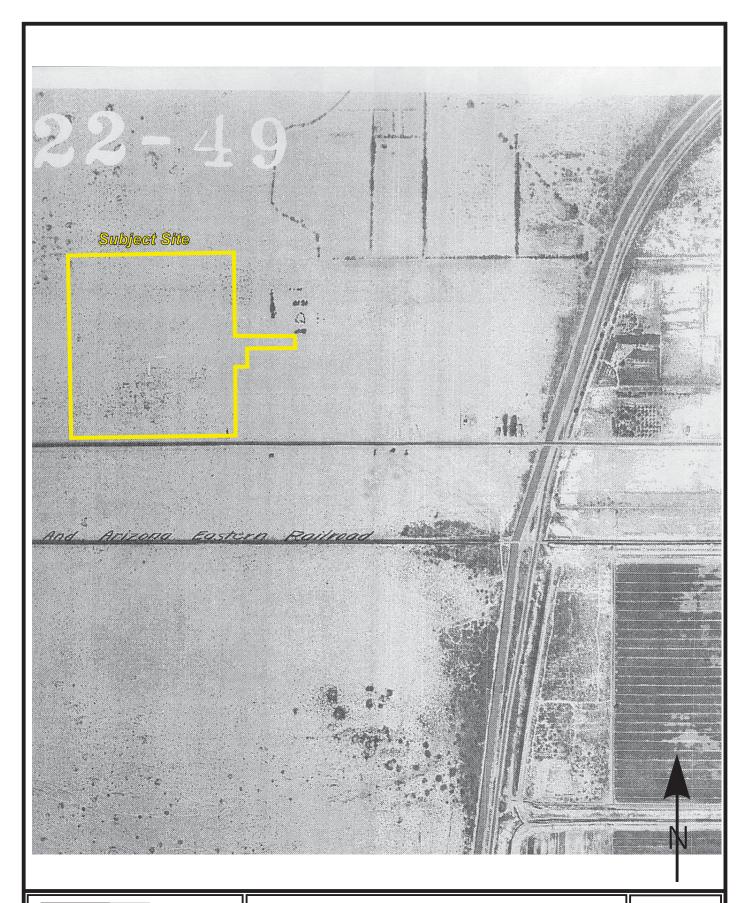
Cail	name and	Depth	USDA texture	Classif	ication	Frag-	F	ercenta sieve	ge pass number-	ing	Liquid Liquid	Plas-
	symbol	ВСРО		Unified	AASHTO	> 3 inches	ЦИ	1-0-	40	1 200-	IIMIE	ticity index
		In		†	T	Pot					Pet	
132 133	. 134. 135-	1	Fine sand	SM	A-3,	0	100	80-100	50-80	10-25		NP
Rositas	, 131, 135	•	 Sand, fine sand, loamy sand.	T .	A-2 A-3, A-2, A-1	0	100	80-100	-40-85 	5-30		NP
136 Rositas		0-4 4-60	Loamy fine sand Sand, fine sand, loamy sand.	SM SM, SP-SM	A-1, A-2	0	100	80-100 80-100	40-85 40-85	10-35 5-30		NP NP
137 Rositas		0-12 12-60	Silt loam Sand, fine sand, loamy sand.	ML SM, SP-SM	A-4 A-3, A-2, A-1	0	100	100 80-100	90-100 40-85	70-90 5-30	20-30	NP-5 NP
138 *: . Rositas-	के पहल हुआ अन्य पहले कही अन्य स्थान गया गये अन्य	4-60	Loamy fine sand Sand; fine sand, loamy sand.	SM SM, SP-SM	A-1, A-2 A-3, A-2, A-1	0	100	80-100 80-100	40-85 40-85	10-35 5-30		NP NP
Supersti	tion	0-6 6-60	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0	100	95-100 95-100	70-85 70-85	15-25 15-25		N P N P
139 Superstí	tion	0-6 6-6 0	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0	100 100	95-100 95-100	70-85 70-85	15-25 15-25	#40 #40	NP NP
140*: Torriort	hents			9		eg.	1 1 1 1 1 1					
Rock out	crop											
141*: Torriort	hents .											
Orthids									05.05	40-65	15-25	NP-5
			Loamy very fine	SM, ML	A-4	0		ir I		1 3		N P
Vint	1		Loamy fine sand	SM	A-2	0	95-100	95-100				
143 Vint		0-12	Fine sandy loam	ML, CL-ML, SM,	A-4	0	100	100	75-85	45-55	15-25	NP-5
		12-60	Loamy sand, loamy fine sand.	SM-SC SM	A-2	0	95-100	95-100	70-80	20-30		ΝP
144*: Vint		0-10	Very fine sandy	SM, ML	A-4	٥	100	100	85~95	40-65	15-25	
		10-40	loam. Loamy fine sand Silty clay		A-2 A-7	0	95-100 100	95~100 100	70-80 95-100	20-30 85-95	40-65	NP 20-35
		Į.	Very fine sandy		A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
THGTOSam	1		loam. Stratified loamy very fine sand		A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
		40-72	to silt loam. Silty clay	CL, CH	A-7	0	100	100	95~100	85-95	40-65	20-35

^{*} See description of the map unit for composition and behavior characteristics of the map unit.



Topographic Map







Project No.: GS1505

1949 Historic Aerial Photograph

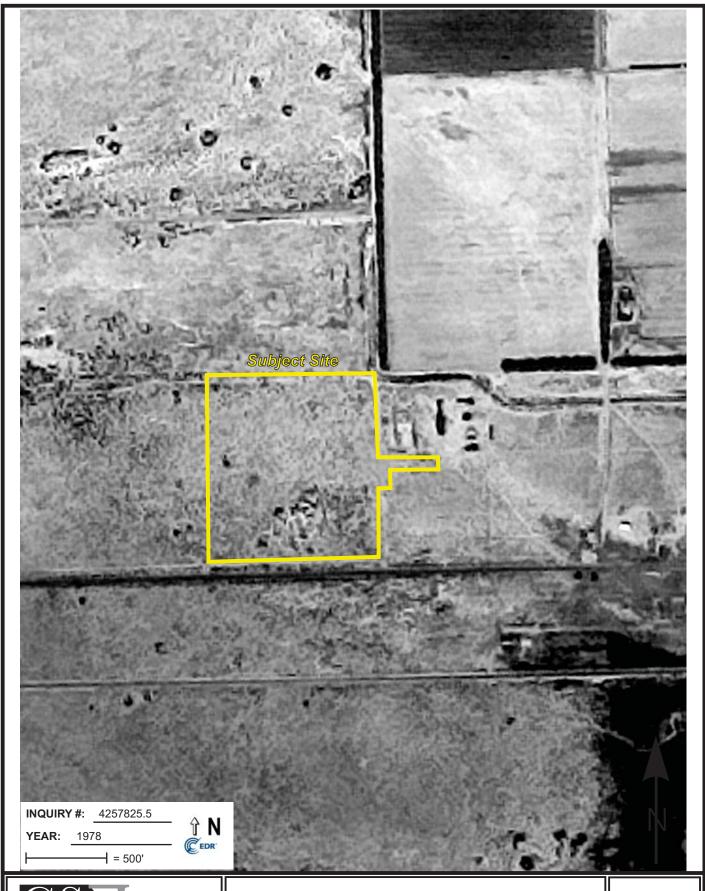
Plate

5





1953 Historic Aerial Photograph







1984 Historic Aerial Photograph



GSELyon

Project No.: GS1505 1996 Hi

1996 Historic Aerial Photograph



2002 Historic Aerial Photograph

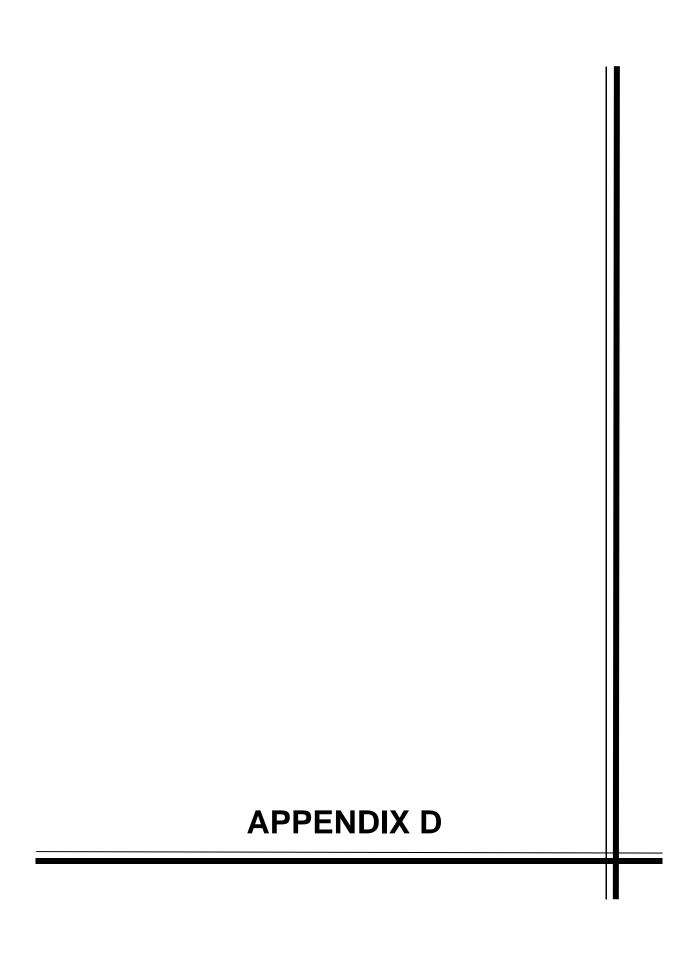








Project No.: GS1505



Dixieland West Solar Project

Evan Hewes Highway, 1/4 Mile West of Brown Rd. Thermal, CA 92274

Inquiry Number: 4257825.3

April 08, 2015

Certified Sanborn® Map Report



Certified Sanborn® Map Report

4/08/15

Site Name: Client Name:

Dixieland West Solar Project Evan Hewes Highway, 1/4 Mile Thermal, CA 92274 GS Lyon Consultants 780 N. Fourth Street El Centro, CA 92243



EDR Inquiry # 4257825.3 Contact: Randy Lyon

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Dixieland West Solar Project

Address: Evan Hewes Highway, 1/4 Mile West of Brown

City, State, Zip: Thermal, CA 92274

Cross Street:

P.O. # NA Project: GS1505

Certification # 33DA-4693-9435



Sanborn® Library search results Certification # 33DA-4693-9435

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

✓ Library of Congress

✓ University Publications of America

✓ EDR Private Collection

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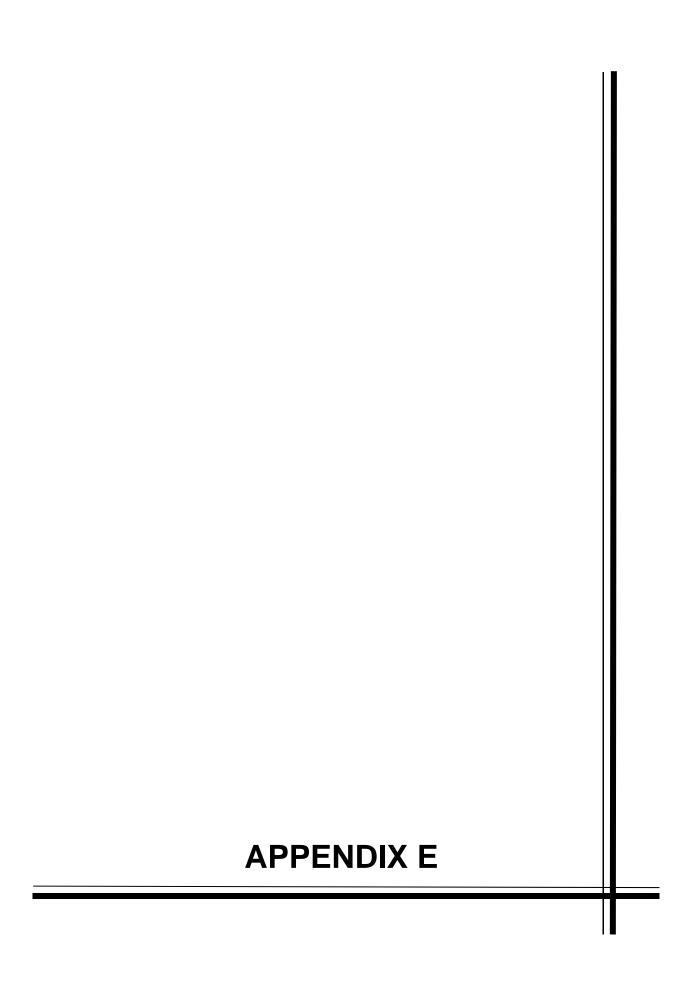
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Dixieland West Solar Project

Evan Hewes Highway, 1/4 Mile West of Brown Rd. Thermal, CA 92274

Inquiry Number: 4257825.2s

April 08, 2015

The EDR Radius Map™ Report with GeoCheck®



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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

EVAN HEWES HIGHWAY, 1/4 MILE WEST OF BROWN RD. THERMAL, CA 92274

COORDINATES

Latitude (North): 32.7932000 - 32° 47′ 35.52″ Longitude (West): 115.7811000 - 115° 46′ 51.96″

Universal Tranverse Mercator: Zone 11 UTM X (Meters): 614135.5 UTM Y (Meters): 3628828.8

Elevation: 20 ft. below sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 32115-G7 PLASTER CITY, CA

Most Recent Revision: 1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20120427 Source: USDA

MAPPED SITES SUMMARY

Target Property Address: EVAN HEWES HIGHWAY, 1/4 MILE WEST OF BROWN RD. THERMAL, CA 92274

Click on Map ID to see full detail.

MAP RELATIVE DIST (ft. & mi.)

ID SITE NAME ADDRESS DATABASE ACRONYMS ELEVATION DIRECTION

NO MAPPED SITES FOUND

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal	NPI	Site	liet

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY	Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP...... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls

LUCIS...... Land Use Control Information System

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE...... State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR_____ EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

LUST...... Geotracker's Leaking Underground Fuel Tank Report

SLIC..... Statewide SLIC Cases

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST..... Active UST Facilities

AST...... Aboveground Petroleum Storage Tank Facilities INDIAN UST...... Underground Storage Tanks on Indian Land

FEMA UST...... Underground Storage Tank Listing

State and tribal voluntary cleanup sites

INDIAN VCP......Voluntary Cleanup Priority Listing VCP.....Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

HAULERS...... Registered Waste Tire Haulers Listing

INDIAN ODI...... Report on the Status of Open Dumps on Indian Lands

WMUDS/SWAT...... Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs

HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
Toxic Pits Toxic Pits Cleanup Act Sites

CDL_____Clandestine Drug Labs

US HIST CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST..... Facility Inventory Database

HIST UST..... Hazardous Substance Storage Container Database

SWEEPS UST..... SWEEPS UST Listing

Local Land Records

LIENS 2...... CERCLA Lien Information
LIENS...... Environmental Liens Listing
DEED...... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS...... Hazardous Materials Information Reporting System CHMIRS..... California Hazardous Material Incident Report System

Other Ascertainable Records

RCRA NonGen / NLR....... RCRA - Non Generators / No Longer Regulated

CONSENT...... Superfund (CERCLA) Consent Decrees

TRIS...... Toxic Chemical Release Inventory System

TSCA..... Toxic Substances Control Act

FTTS_____FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide

Act)/TSCA (Toxic Substances Control Act)

HIST FTTS...... FIFRA/TSCA Tracking System Administrative Case Listing

SSTS..... Section 7 Tracking Systems

ICIS..... Integrated Compliance Information System

FINDS______Facility Index System/Facility Registry System RAATS______RCRA Administrative Action Tracking System

RMP...... Risk Management Plans CA BOND EXP. PLAN..... Bond Expenditure Plan

UIC Listing

NPDES Permits Listing

HIST CORTESE..... Hazardous Waste & Substance Site List

CUPA Listings..... CUPA Resources List

Notify 65...... Proposition 65 Records DRYCLEANERS...... Cleaner Facilities

WIP..... Well Investigation Program Case List

ENF...... Enforcement Action Listing HAZNET..... Facility and Manifest Data EMI..... Emissions Inventory Data INDIAN RESERV..... Indian Reservations

INDIAN RESERV...... Indian Reservations
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

LEAD SMELTERS..... Lead Smelter Sites

HWP..... EnviroStor Permitted Facilities Listing

HWT...... Registered Hazardous Waste Transporter Database

PROC...... Certified Processors Database

Financial Assurance Information Listing

EPA WATCH LIST..... EPA WATCH LIST

US FIN ASSUR______Financial Assurance Information

WDS_____ Waste Discharge System

MWMP...... Medical Waste Management Program Listing PCB TRANSFORMER...... PCB Transformer Registration Database

COAL ASH EPA...... Coal Combustion Residues Surface Impoundments List US AIRS...... Aerometric Information Retrieval System Facility Subsystem

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP...... EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF...... Recovered Government Archive Solid Waste Facilities List

RGA LUST...... Recovered Government Archive Leaking Underground Storage Tank

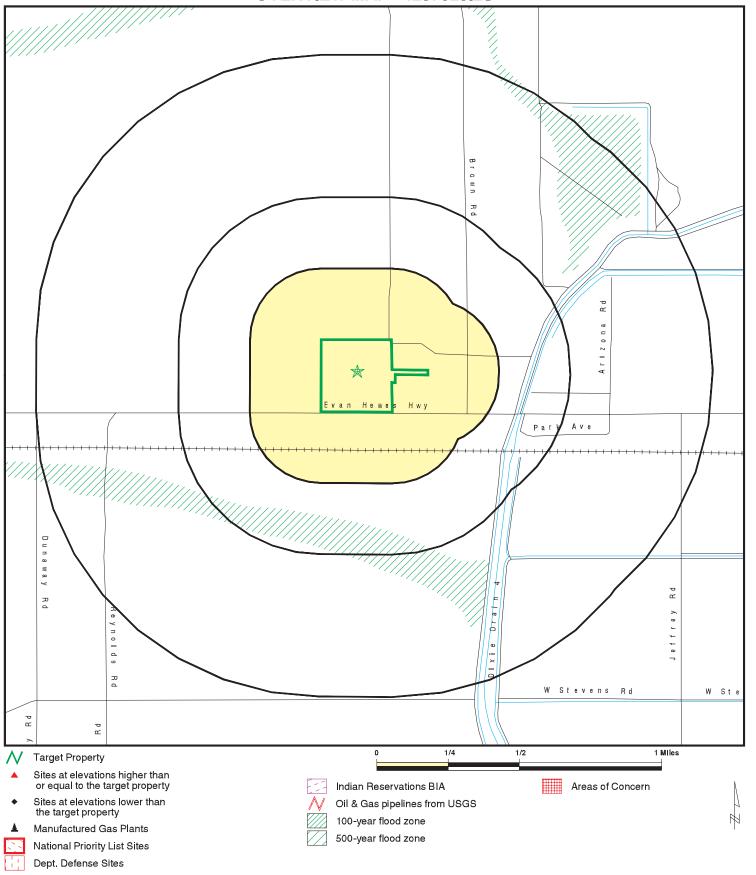
SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.								
Site Name	Database(s)							
U.S. GYPSUM CO.	SLIC							

OVERVIEW MAP - 4257825.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Dixieland West Solar Project

ADDRESS: Evan Hewes Highway, 1/4 Mile West of Brown Rd.

Thermal CA 92274

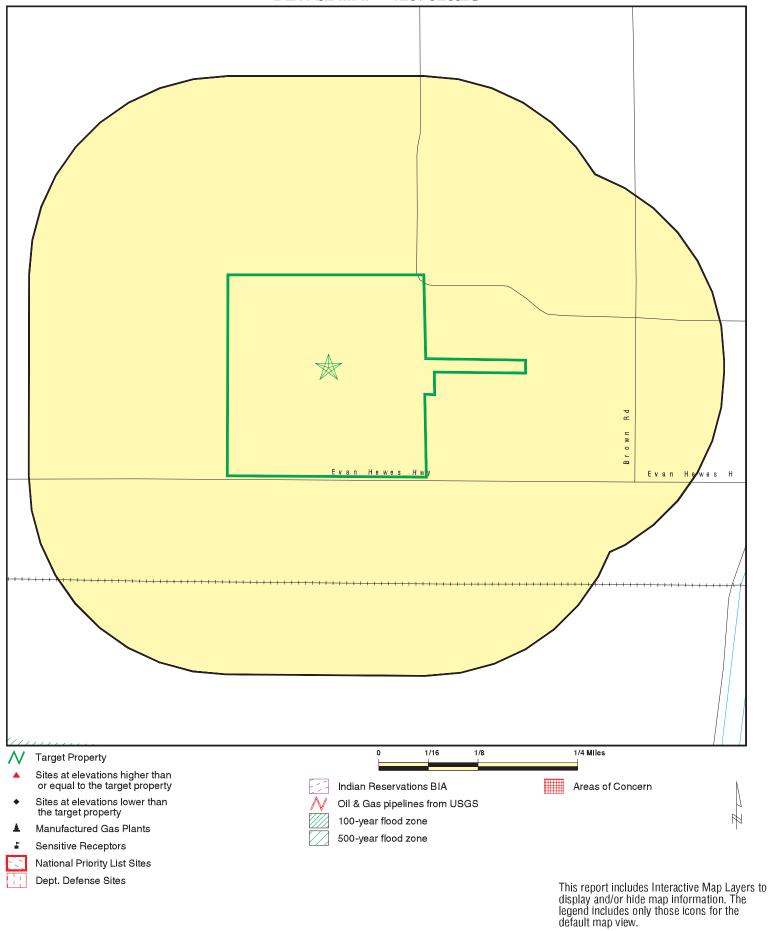
LAT/LONG: 32.7932 / 115.7811 CLIENT: GS Lyon Cor CONTACT: Randy Lyon GS Lyon Consultants

INQUIRY #: 4257825.2s

DATE: April 08, 2015 1:46 pm

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DETAIL MAP - 4257825.2S



SITE NAME: Dixieland West Solar Project
ADDRESS: Evan Hewes Highway, 1/4 Mile West of Brown Rd.
Thermal CA 92274
LAT/LONG: 32.7932 / 115.7811

CLIENT: GS Lyon Consultants
CONTACT: Randy Lyon
INQUIRY #: 4257825.2s
DATE: April 08, 2015 1:49 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENT	TAL RECORDS							
Federal NPL site list								
NPL Proposed NPL NPL LIENS	1.000 1.000 0.001		0 0 0	0 0 NR	0 0 NR	0 0 NR	NR NR NR	0 0 0
Federal Delisted NPL site	e list							
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS FEDERAL FACILITY	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Federal CERCLIS NFRAI	P site List							
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRAC	TS facilities li	st						
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-COR	RACTS TSD f	acilities list						
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generator	s list							
RCRA-LQG RCRA-SQG RCRA-CESQG	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
Federal institutional con engineering controls reg								
US ENG CONTROLS US INST CONTROL LUCIS	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equiva	lent NPL							
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equiva	lent CERCLIS	3						
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill a solid waste disposal site								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking s	storage tank l	ists						
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted		
SLIC INDIAN LUST	0.500 0.500		0	0 0	0 0	NR NR	NR NR	0 0		
State and tribal registered storage tank lists										
UST AST INDIAN UST FEMA UST	0.250 0.250 0.250 0.250		0 0 0 0	0 0 0 0	NR NR NR NR	NR NR NR NR	NR NR NR NR	0 0 0 0		
State and tribal voluntary cleanup sites										
INDIAN VCP VCP	0.500 0.500		0	0 0	0 0	NR NR	NR NR	0 0		
ADDITIONAL ENVIRONMEN	ITAL RECORDS	<u>s</u>								
Local Brownfield lists										
US BROWNFIELDS	0.500		0	0	0	NR	NR	0		
Local Lists of Landfill / Solid Waste Disposal Sites										
DEBRIS REGION 9 ODI SWRCY HAULERS INDIAN ODI WMUDS/SWAT	0.500 0.500 0.500 0.001 0.500 0.500		0 0 0 0 0	0 0 0 NR 0 0	0 0 0 NR 0 0	NR NR NR NR NR	NR NR NR NR NR	0 0 0 0 0		
Local Lists of Hazardous waste / Contaminated Sites										
US CDL HIST Cal-Sites SCH Toxic Pits CDL US HIST CDL	0.001 1.000 0.250 1.000 0.001 0.001		0 0 0 0 0	NR 0 0 0 NR NR	NR 0 NR 0 NR NR	NR 0 NR 0 NR NR	NR NR NR NR NR	0 0 0 0 0		
Local Lists of Registered	d Storage Tar	iks								
CA FID UST HIST UST SWEEPS UST	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0		
Local Land Records										
LIENS 2 LIENS DEED	0.001 0.001 0.500		0 0 0	NR NR 0	NR NR 0	NR NR NR	NR NR NR	0 0 0		
Records of Emergency Release Reports										
HMIRS CHMIRS LDS	0.001 0.001 0.001		0 0 0	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 0 0		

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS SPILLS 90	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000 1.000		0	0	0	0	NR	0
ROD UMTRA	0.500		0 0	0 0	0 0	0 NR	NR NR	0 0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		Ö	NR	NR	NR	NR	ŏ
FTTS	0.001		0	NR	NR	NR	NR	Ö
HIST FTTS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS RAATS	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
RMP	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	0.001		Ö	NR	NR	NR	NR	Ö
NPDES	0.001		0	NR	NR	NR	NR	Ō
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP ENF	0.250 0.001		0 0	0 NR	NR NR	NR NR	NR NR	0 0
HAZNET	0.001		0	NR NR	NR NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		Ō	Ö	Ö	NR	NR	Ö
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST US FIN ASSUR	0.001		0	NR NR	NR NR	NR NR	NR NR	0
WDS	0.001 0.001		0 0	NR	NR NR	NR	NR	0 0
MWMP	0.250		0	0	NR NR	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		Ő	0	0	NR	NR	0
US AIRS	0.001		Ō	NR	NR	NR	NR	Ō
PRP	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
2020 COR ACTION COAL ASH DOE	0.250 0.001		0	0 NR	NR NR	NR NR	NR NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP EDR US Hist Auto Stat EDR US Hist Cleaners	1.000 0.250 0.250		0 0 0	0 0 0	0 NR NR	0 NR NR	NR NR NR	0 0 0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Go	vt. Archives							
RGA LF RGA LUST	0.001 0.001		0	NR NR	NR NR	NR NR	NR NR	0 0
- Totals		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID		MAP FINDINGS		
Direction			ı	EDD 10 11 1
Distance				EDR ID Number
Elevation	Site		Database(s)	EPA ID Number

NO SITES FOUND

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PLASTER	S105756785	5 U.S. GYPSUM CO.	SOUTH SIDE OF EVAN HEWES HIGHW	92243	SLIC

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014 Source: EPA
Date Data Arrived at EDR: 01/08/2015 Telephone: N/A

Number of Days to Update: 32 Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014 Source: EPA
Date Data Arrived at EDR: 01/08/2015 Telephone: N/A

Number of Days to Update: 32 Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Source: EPA

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 02/09/2015

Number of Days to Update: 32

Source: EPA Telephone: N/A

Last EDR Contact: 01/08/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 11/11/2013 Date Made Active in Reports: 02/13/2014

Number of Days to Update: 94

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014 Date Data Arrived at EDR: 10/07/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 13

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 01/09/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 11/11/2013 Date Made Active in Reports: 02/13/2014

Number of Days to Update: 94

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014 Date Data Arrived at EDR: 09/19/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014 Date Data Arrived at EDR: 09/19/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014 Date Data Arrived at EDR: 12/12/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 48

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/29/2014 Date Data Arrived at EDR: 09/30/2014 Date Made Active in Reports: 11/06/2014

Number of Days to Update: 37

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity.

These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/16/2015 Date Data Arrived at EDR: 02/17/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 14

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320 Last EDR Contact: 02/17/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001 Date Data Arrived at EDR: 02/28/2001 Date Made Active in Reports: 03/29/2001

Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)

Telephone: 707-570-3769 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6710 Last EDR Contact: 09/06/2011

Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008 Date Data Arrived at EDR: 07/22/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-4834 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: see region list Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-622-2433 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003 Date Data Arrived at EDR: 05/19/2003 Date Made Active in Reports: 06/02/2003

Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-542-4786 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003 Date Data Arrived at EDR: 09/10/2003 Date Made Active in Reports: 10/07/2003

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)

Telephone: 530-542-5572 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005 Date Data Arrived at EDR: 06/07/2005 Date Made Active in Reports: 06/29/2005

Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)

Telephone: 760-241-7365 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004 Date Data Arrived at EDR: 02/26/2004 Date Made Active in Reports: 03/24/2004

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7) Telephone: 760-776-8943

Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001 Date Data Arrived at EDR: 04/23/2001 Date Made Active in Reports: 05/21/2001

Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-637-5595 Last EDR Contact: 09/26/2011

Next Scheduled EDR Contact: 01/09/2012 Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005 Date Data Arrived at EDR: 02/15/2005 Date Made Active in Reports: 03/28/2005

Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)

Telephone: 909-782-4496 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015

Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003 Date Data Arrived at EDR: 04/07/2003 Date Made Active in Reports: 04/25/2003

Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)

Telephone: 707-576-2220 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-286-0457 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006 Date Data Arrived at EDR: 05/18/2006 Date Made Active in Reports: 06/15/2006

Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-549-3147 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004 Date Data Arrived at EDR: 11/18/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6600 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005 Date Data Arrived at EDR: 04/05/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-3291 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005 Date Data Arrived at EDR: 05/25/2005 Date Made Active in Reports: 06/16/2005

Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch

Telephone: 619-241-6583 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region

Telephone: 530-542-5574 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004 Date Data Arrived at EDR: 11/29/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region

Telephone: 760-346-7491 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008 Date Data Arrived at EDR: 04/03/2008 Date Made Active in Reports: 04/14/2008

Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)

Telephone: 951-782-3298 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007 Date Data Arrived at EDR: 09/11/2007 Date Made Active in Reports: 09/28/2007

Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-467-2980 Last EDR Contact: 08/08/2011

Next Scheduled EDR Contact: 11/21/2011 Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 29

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 42

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 65

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/10/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 31

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 10

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013

Number of Days to Update: 184

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 32

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 02/09/2015

Number of Days to Update: 32

Source: Environmental Protection Agency

Telephone: 415-972-3372 Last EDR Contact: 01/08/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: SWRCB Telephone: 916-341-5851 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009 Date Data Arrived at EDR: 09/10/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 21

Source: California Environmental Protection Agency

Telephone: 916-327-5092 Last EDR Contact: 07/13/2015

Next Scheduled EDR Contact: 04/13/2015 Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 36

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 28

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 65

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 42

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013 Date Data Arrived at EDR: 05/01/2013 Date Made Active in Reports: 01/27/2014

Number of Days to Update: 271

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 29

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 28

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 10

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010 Date Data Arrived at EDR: 02/16/2010 Date Made Active in Reports: 04/12/2010

Number of Days to Update: 55

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014 Date Data Arrived at EDR: 10/01/2014 Date Made Active in Reports: 11/06/2014

Number of Days to Update: 36

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2014 Date Data Arrived at EDR: 12/22/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 38

Source: Environmental Protection Agency Telephone: 202-566-2777

Last EDR Contact: 03/24/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside

County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: Department of Conservation

Telephone: 916-323-3836 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing A listing of registered waste tire haulers.

> Date of Government Version: 12/01/2014 Date Data Arrived at EDR: 12/01/2014 Date Made Active in Reports: 01/23/2015

Number of Days to Update: 53

Source: Integrated Waste Management Board

Telephone: 916-341-6422 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000 Date Data Arrived at EDR: 04/10/2000 Date Made Active in Reports: 05/10/2000

Number of Days to Update: 30

Source: State Water Resources Control Board

Telephone: 916-227-4448 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 03/03/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005 Date Data Arrived at EDR: 08/03/2006 Date Made Active in Reports: 08/24/2006

Number of Days to Update: 21

Source: Department of Toxic Substance Control

Telephone: 916-323-3400 Last EDR Contact: 02/23/2009

Next Scheduled EDR Contact: 05/25/2009 Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995 Date Data Arrived at EDR: 08/30/1995 Date Made Active in Reports: 09/26/1995

Number of Days to Update: 27

Source: State Water Resources Control Board

Telephone: 916-227-4364 Last EDR Contact: 01/26/2009

Next Scheduled EDR Contact: 04/27/2009 Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Department of Toxic Substances Control

Telephone: 916-255-6504 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 04/27/2015

Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 03/03/2015

Next Scheduled EDR Contact: 06/15/2015

Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994 Date Data Arrived at EDR: 09/05/1995 Date Made Active in Reports: 09/29/1995

Number of Days to Update: 24

Source: California Environmental Protection Agency

Telephone: 916-341-5851 Last EDR Contact: 12/28/1998 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009 Date Data Arrived at EDR: 09/23/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 8

Source: Department of Public Health

Telephone: 707-463-4466 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990 Date Data Arrived at EDR: 01/25/1991 Date Made Active in Reports: 02/12/1991

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-341-5851 Last EDR Contact: 07/26/2001 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994 Date Data Arrived at EDR: 07/07/2005 Date Made Active in Reports: 08/11/2005

Number of Days to Update: 35

Source: State Water Resources Control Board

Telephone: N/A

Last EDR Contact: 06/03/2005 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014 Date Data Arrived at EDR: 03/18/2014 Date Made Active in Reports: 04/24/2014

Number of Days to Update: 37

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: DTSC and SWRCB Telephone: 916-323-3400 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 12/30/2014 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 69

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Office of Emergency Services Telephone: 916-845-8400

Last EDR Contact: 01/28/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Quality Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/22/2013

Number of Days to Update: 50

Source: FirstSearch Telephone: N/A

Last EDR Contact: 01/03/2013 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 08/07/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 02/03/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 888-275-8747 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 09/18/2014

Number of Days to Update: 8

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 24

Telephone: Varies

Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

Source: Department of Justice, Consent Decree Library

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013 Date Data Arrived at EDR: 12/12/2013 Date Made Active in Reports: 02/24/2014

Number of Days to Update: 74

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Date Data Arrived at EDR: 10/07/2011 Date Made Active in Reports: 03/01/2012

Number of Days to Update: 146

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/27/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014 Date Data Arrived at EDR: 12/31/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 03/06/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/31/2013 Date Made Active in Reports: 09/13/2013

Number of Days to Update: 44

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 01/29/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 01/15/2015 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 14

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 03/27/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA

Telephone: 202-566-1667 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011

Number of Days to Update: 77

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/06/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 202-564-5088 Last EDR Contact: 01/09/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 10/15/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 33

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 01/16/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 21

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 02/27/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 26

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 02/27/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015 Date Data Arrived at EDR: 02/27/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 26

Source: EPA

Telephone: (415) 947-8000 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Source: EPA

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008 Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 04/19/2013

Number of Days to Update: 52

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 02/24/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989 Date Data Arrived at EDR: 07/27/1994 Date Made Active in Reports: 08/02/1994

Number of Days to Update: 6

Source: Department of Health Services

Telephone: 916-255-2118 Last EDR Contact: 05/31/1994 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014 Date Data Arrived at EDR: 12/15/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 45

Source: Deaprtment of Conservation Telephone: 916-445-2408

Last EDR Contact: 03/20/2015 Next Scheduled EDR Contact: 06/29/2015

Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 03/12/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: State Water Resources Control Board

Telephone: 916-445-9379 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 36

Source: CAL EPA/Office of Emergency Information

Telephone: 916-323-3400 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001 Date Data Arrived at EDR: 01/22/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 76

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 01/22/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993 Date Data Arrived at EDR: 11/01/1993 Date Made Active in Reports: 11/19/1993

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-445-3846 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015

Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015 Date Data Arrived at EDR: 02/20/2015 Date Made Active in Reports: 03/12/2015

Number of Days to Update: 20

Source: Department of Toxic Substance Control

Telephone: 916-327-4498 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009 Date Data Arrived at EDR: 07/21/2009 Date Made Active in Reports: 08/03/2009

Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board

Telephone: 213-576-6726 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015

Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: State Water Resoruces Control Board

Telephone: 916-445-9379 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 10/15/2014 Date Made Active in Reports: 11/19/2014

Number of Days to Update: 35

Source: California Environmental Protection Agency

Telephone: 916-255-1136 Last EDR Contact: 01/16/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 03/25/2014 Date Made Active in Reports: 04/28/2014

Number of Days to Update: 34

Source: California Air Resources Board

Telephone: 916-322-2990 Last EDR Contact: 03/27/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 12/08/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 34

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011 Date Data Arrived at EDR: 03/09/2011 Date Made Active in Reports: 05/02/2011

Number of Days to Update: 54

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 02/18/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 02/06/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 339

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015

Data Release Frequency: N/A

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007 Date Data Arrived at EDR: 06/20/2007 Date Made Active in Reports: 06/29/2007

Number of Days to Update: 9

Source: State Water Resources Control Board

Telephone: 916-341-5227 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 10/17/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 3

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 02/13/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010 Date Made Active in Reports: 12/02/2010

Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014 Date Data Arrived at EDR: 11/26/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 64

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 01/05/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 6

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 02/13/2015

Next Scheduled EDR Contact: 05/25/2015

Data Release Frequency: Varies

PROC: Certified Processors Database A listing of certified processors.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: Department of Conservation Telephone: 916-323-3836 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 02/02/2015 Date Data Arrived at EDR: 02/06/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 25

Source: Department of Toxic Substances Control

Telephone: 916-255-3628 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2015 Date Data Arrived at EDR: 02/20/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 11

Source: California Integrated Waste Management Board

Telephone: 916-341-6066 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Date Data Arrived at EDR: 10/19/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/16/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Department of Public Health Telephone: 916-558-1784 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/12/2015 Date Data Arrived at EDR: 01/13/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 21

Source: Department of Toxic Substances Control

Telephone: 916-440-7145 Last EDR Contact: 01/13/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 02/24/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014 Date Data Arrived at EDR: 10/31/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 17

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/16/2014 Date Data Arrived at EDR: 10/31/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 17

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board Telephone: N/A

Last EDR Contact: 06/01/2012 Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List Cupa Facility List

> Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/24/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 7

Source: Amador County Environmental Health

Telephone: 209-223-6439 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/22/2015

Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing Cupa facility list.

> Date of Government Version: 11/20/2014 Date Data Arrived at EDR: 11/24/2014 Date Made Active in Reports: 01/07/2015

Number of Days to Update: 44

Source: Public Health Department Telephone: 530-538-7149 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing Cupa Facility Listing

> Date of Government Version: 03/03/2015 Date Data Arrived at EDR: 03/05/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 5

Source: Calveras County Environmental Health

Telephone: 209-754-6399 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List Cupa facility list.

> Date of Government Version: 06/11/2014 Date Data Arrived at EDR: 06/13/2014 Date Made Active in Reports: 07/07/2014

Number of Days to Update: 24

Source: Health & Human Services Telephone: 530-458-0396 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015

Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 7

Source: Contra Costa Health Services Department

Telephone: 925-646-2286 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List Cupa Facility list

> Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: Del Norte County Environmental Health Division

Telephone: 707-465-0426 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 05/18/2015

Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/24/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: El Dorado County Environmental Management Department

Telephone: 530-621-6623 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 01/16/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 20

Source: Dept. of Community Health Telephone: 559-445-3271 Last EDR Contact: 04/06/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List CUPA facility list.

> Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Humboldt County Environmental Health

Telephone: N/A

Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/10/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 19

Source: San Diego Border Field Office

Telephone: 760-339-2777 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013 Date Data Arrived at EDR: 09/11/2013 Date Made Active in Reports: 10/14/2013

Number of Days to Update: 33

Source: Inyo County Environmental Health Services

Telephone: 760-878-0238 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 07/22/2014 Date Data Arrived at EDR: 11/12/2014 Date Made Active in Reports: 12/19/2014

Number of Days to Update: 37

Source: Kern County Environment Health Services Department

Telephone: 661-862-8700 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/21/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 12/30/2014

Number of Days to Update: 35

Source: Kings County Department of Public Health

Telephone: 559-584-1411 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List Cupa facility list

> Date of Government Version: 01/20/2015 Date Data Arrived at EDR: 01/21/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 15

Source: Lake County Environmental Health

Telephone: 707-263-1164 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009 Date Data Arrived at EDR: 03/31/2009 Date Made Active in Reports: 10/23/2009

Number of Days to Update: 206

Source: EPA Region 9 Telephone: 415-972-3178 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 33

Source: Department of Public Works

Telephone: 626-458-3517 Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2015 Date Data Arrived at EDR: 01/20/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 16

Source: La County Department of Public Works

Telephone: 818-458-5185 Last EDR Contact: 01/20/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009 Date Data Arrived at EDR: 03/10/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 29

Source: Engineering & Construction Division

Telephone: 213-473-7869 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 40

Source: Community Health Services Telephone: 323-890-7806

Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/20/2014 Date Data Arrived at EDR: 10/22/2014 Date Made Active in Reports: 12/15/2014

Number of Days to Update: 54

Source: City of El Segundo Fire Department

Telephone: 310-524-2236 Last EDR Contact: 03/06/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 01/29/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 13

Source: City of Long Beach Fire Department

Telephone: 562-570-2563 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/08/2015 Date Data Arrived at EDR: 01/15/2015 Date Made Active in Reports: 01/27/2015

Number of Days to Update: 12

Source: City of Torrance Fire Department

Telephone: 310-618-2973 Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/20/2015 Date Data Arrived at EDR: 03/24/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 7

Source: Madera County Environmental Health

Telephone: 559-675-7823 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014 Date Data Arrived at EDR: 10/22/2014 Date Made Active in Reports: 12/15/2014

Number of Days to Update: 54

Source: Public Works Department Waste Management

Telephone: 415-499-6647

Last EDR Contact: 04/06/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: Merced County Environmental Health

Telephone: 209-381-1094 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 03/06/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 4

Source: Mono County Health Department

Telephone: 760-932-5580 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/19/2015 Date Data Arrived at EDR: 03/20/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 11

Source: Monterey County Health Department

Telephone: 831-796-1297 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011 Date Data Arrived at EDR: 12/06/2011 Date Made Active in Reports: 02/07/2012

Number of Days to Update: 63

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008 Date Data Arrived at EDR: 01/16/2008 Date Made Active in Reports: 02/08/2008

Number of Days to Update: 23

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/12/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Community Development Agency

Telephone: 530-265-1467 Last EDR Contact: 02/06/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 13

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/10/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Placer County Health and Human Services

Telephone: 530-745-2363 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 33

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 28

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/03/2014 Date Data Arrived at EDR: 01/07/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 27

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 01/07/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/03/2014 Date Data Arrived at EDR: 01/09/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 25

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 01/05/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/02/2015 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division

Telephone: 909-387-3041 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013 Date Data Arrived at EDR: 09/24/2013 Date Made Active in Reports: 10/17/2013

Number of Days to Update: 23

Source: Hazardous Materials Management Division

Telephone: 619-338-2268 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014
Date Data Arrived at EDR: 11/21/2014
Date Made Active in Reports: 12/29/2014

Number of Days to Update: 38

Source: Department of Health Services

Telephone: 619-338-2209 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010 Date Data Arrived at EDR: 06/15/2010 Date Made Active in Reports: 07/09/2010

Number of Days to Update: 24

Source: San Diego County Department of Environmental Health

Telephone: 619-338-2371 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008 Date Data Arrived at EDR: 09/19/2008 Date Made Active in Reports: 09/29/2008

Number of Days to Update: 10

Source: Department Of Public Health San Francisco County

Telephone: 415-252-3920 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010 Date Data Arrived at EDR: 03/10/2011 Date Made Active in Reports: 03/15/2011

Number of Days to Update: 5

Source: Department of Public Health Telephone: 415-252-3920 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/24/2015 Date Data Arrived at EDR: 03/25/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 6

Source: Environmental Health Department

Telephone: N/A

Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: San Luis Obispo County Public Health Department

Telephone: 805-781-5596 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 01/09/2015 Date Data Arrived at EDR: 01/12/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 22

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/16/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/17/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 7

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011 Date Data Arrived at EDR: 09/09/2011 Date Made Active in Reports: 10/07/2011

Number of Days to Update: 28

Source: Santa Barbara County Public Health Department

Telephone: 805-686-8167 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List Cupa facility list

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: Department of Environmental Health

Telephone: 408-918-1973 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005 Date Data Arrived at EDR: 03/30/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 22

Source: Santa Clara Valley Water District

Telephone: 408-265-2600 Last EDR Contact: 03/23/2009

Next Scheduled EDR Contact: 06/22/2009

Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014 Date Data Arrived at EDR: 03/05/2014 Date Made Active in Reports: 03/18/2014

Number of Days to Update: 13

Source: Department of Environmental Health

Telephone: 408-918-3417 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 8

Source: City of San Jose Fire Department

Telephone: 408-535-7694 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 11/24/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 12/31/2014

Number of Days to Update: 36

Source: Santa Cruz County Environmental Health

Telephone: 831-464-2761 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Shasta County Department of Resource Management

Telephone: 530-225-5789 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/19/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 5

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/20/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 11

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 01/06/2015 Date Data Arrived at EDR: 01/09/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 27

Source: County of Sonoma Fire & Emergency Services Department

Telephone: 707-565-1174 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/02/2015 Date Data Arrived at EDR: 01/06/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 28

Source: Department of Health Services

Telephone: 707-565-6565 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Sutter County Department of Agriculture

Telephone: 530-822-7500 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/03/2015 Date Made Active in Reports: 02/27/2015

Number of Days to Update: 24

Source: Divison of Environmental Health

Telephone: 209-533-5633 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 01/27/2015 Date Data Arrived at EDR: 02/19/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 12

Source: Ventura County Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 12/01/2011 Date Made Active in Reports: 01/19/2012

Number of Days to Update: 49

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008 Date Data Arrived at EDR: 06/24/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 37

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 32

Source: Ventura County Resource Management Agency

Telephone: 805-654-2813 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: Environmental Health Division Telephone: 805-654-2813

Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2014 Date Data Arrived at EDR: 12/23/2014 Date Made Active in Reports: 01/27/2015

Number of Days to Update: 35

Source: Yolo County Department of Health

Telephone: 530-666-8646 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 02/17/2015 Date Data Arrived at EDR: 02/19/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 12

Source: Yuba County Environmental Health Department

Telephone: 530-749-7523 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 05/18/2015

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013 Date Data Arrived at EDR: 08/19/2013 Date Made Active in Reports: 10/03/2013

Number of Days to Update: 45

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375 Last EDR Contact: 11/17/2014

Next Scheduled EDR Contact: 03/02/2015 Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/19/2012 Date Made Active in Reports: 08/28/2012

Number of Days to Update: 40

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD

facility.

Date of Government Version: 01/01/2015 Date Data Arrived at EDR: 02/04/2015 Date Made Active in Reports: 02/27/2015

Number of Days to Update: 23

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 02/04/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 07/21/2014 Date Made Active in Reports: 08/25/2014

Number of Days to Update: 35

Source: Department of Environmental Protection

Telephone: 717-783-8990 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 07/15/2014 Date Made Active in Reports: 08/13/2014

Number of Days to Update: 29

Source: Department of Environmental Management

Telephone: 401-222-2797 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 03/19/2015 Date Made Active in Reports: 04/07/2015

Number of Days to Update: 19

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK®-PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

DIXIELAND WEST SOLAR PROJECT EVAN HEWES HIGHWAY, 1/4 MILE WEST OF BROWN RD. THERMAL, CA 92274

TARGET PROPERTY COORDINATES

Latitude (North): 32.7932 - 32° 47' 35.52" Longitude (West): 115.7811 - 115° 46' 51.96"

Universal Tranverse Mercator: Zone 11 UTM X (Meters): 614135.5 UTM Y (Meters): 3628828.8

Elevation: 20 ft. below sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 32115-G7 PLASTER CITY, CA

Most Recent Revision: 1979

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

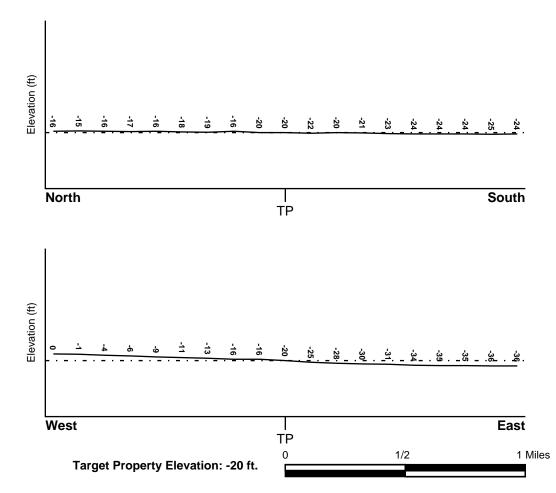
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

FEMA Flood

Target Property County IMPERIAL, CA

Electronic Data
YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:

06025C - FEMA DFIRM Flood data

Additional Panels in search area:

Not Reported

NATIONAL WETLAND INVENTORY

NWI Electronic

NWI Quad at Target Property

Data Coverage

PLASTER CITY

YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

 MAP ID
 FROM TP
 GROUNDWATER FLOW

 Not Reported
 GROUNDWATER FLOW

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

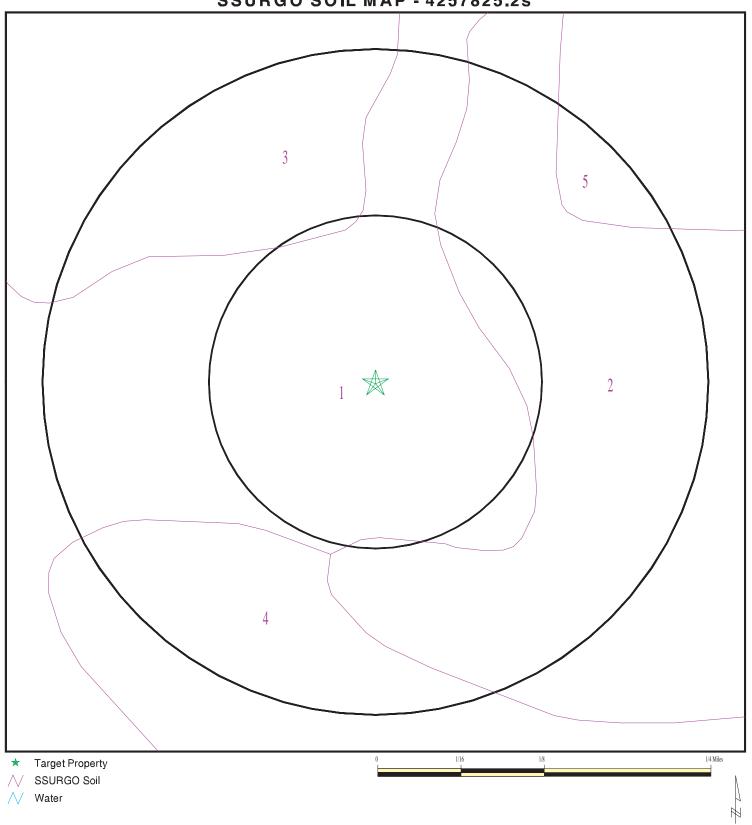
Era: Cenozoic Category: Stratifed Sequence

System: Quaternary Series: Quaternary

Code: Q (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4257825.2s



SITE NAME: Dixieland West Solar Project
ADDRESS: Evan Hewes Highway, 1/4 Mile West of Brown Rd.
Thermal CA 92274
LAT/LONG: 32.7932 / 115.7811

CLIENT: GS Lyon Consultants
CONTACT: Randy Lyon
INQUIRY#: 4257825.2s
DATE: April 08, 2015 1:50 pm

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Rositas

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to

excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	
1	0 inches	27 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	27 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: Meloland

Soil Surface Texture: fine sand

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	11 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	11 inches	25 inches	stratified loamy fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 141 Min: 4	Max: 8.4 Min: 7.4
3	25 inches	70 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: Indio

Soil Surface Texture: loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to

excessively drained sands and gravels.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	11 inches	loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	11 inches	72 inches	stratified loamy very fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 4

Soil Component Name: Rositas Soil Surface Texture:

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to

fine sand

excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary			Classification		Saturated hydraulic	
	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	9 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9
2	9 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

Soil Map ID: 5

Soil Component Name: Meloland

Soil Surface Texture: very fine sandy loam

Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures. Hydrologic Group:

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 76 inches

	Soil Layer Information						
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)
1	0 inches	11 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 14 Min: 4	Max: 8.4 Min: 7.4
2	11 inches	25 inches	stratified loamy fine sand to silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 141 Min: 4	Max: 8.4 Min: 7.4
3	25 inches	70 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 0.42 Min: 0.01	Max: 8.4 Min: 7.4

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000

Federal FRDS PWS Nearest PWS within 0.001 miles

State Database 1.000

FEDERAL USGS WELL INFORMATION

MAP ID WELL ID LOCATION FROM TP

FEDERAL USGS WELL INFORMATION

MAP ID WELL ID FROM TP

A1 USGS40000129859 1/2 - 1 Mile NE A2 USGS40000129858 1/2 - 1 Mile NE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID WELL ID FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID WELL ID LOCATION FROM TP

No Wells Found

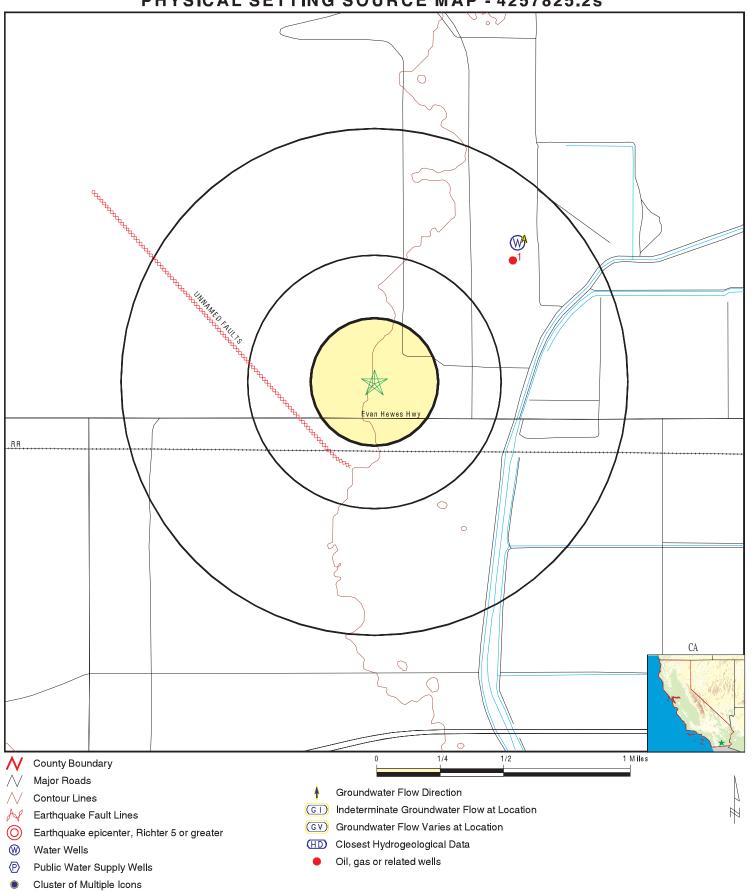
OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID WELL ID LOCATION FROM TP

1 CAOG9A000002943 1/2 - 1 Mile NE

PHYSICAL SETTING SOURCE MAP - 4257825.2s



SITE NAME: Dixieland West Solar Project

Evan Hewes Highway, 1/4 Mile West of Brown Rd. Thermal CA 92274 ADDRESS:

LAT/LONG: 32.7932 / 115.7811

CLIENT: GS Lyon Cor CONTACT: Randy Lyon INQUIRY #: 4257825.2s

DATE: April 08, 2015 1:50 pm

GS Lyon Consultants

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance

Elevation Database EDR ID Number

A1 NE 1/2 - 1 Mile

FED USGS USGS40000129859

US

US

Lower

Org. Identifier: USGS-CA

Formal name: USGS California Water Science Center

Monloc Identifier: USGS-324804115461402 Monloc name: 016S012E06P002S

Monloc type: Well

Monloc desc: Not Reported

18100200 Drainagearea value: Not Reported Huc code: Contrib drainagearea: Not Reported Drainagearea Units: Not Reported 32.8011689 Contrib drainagearea units: Not Reported Latitude: Longitude: -115.7713925 Sourcemap scale: Not Reported Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 33.00 Vert measure units: feet Vertacc measure val: 5.

Vert accmeasure units: feet

Vertcollection method: Interpolated from topographic map

Vert coord refsys: NGVD29 Countrycode:

Aquifername: Basin and Range basin-fill aquifers

Formation type: Not Reported Aquifer type: Not Reported

Construction date: 1952 Welldepth: Not Reported

Welldepth units: Not Reported Wellholedepth: 7806

Wellholedepth units: ft

Ground-water levels, Number of Measurements: 0

A2
NE FED USGS USGS40000129858

1/2 - 1 Mile Lower

Org. Identifier: USGS-CA

Formal name: USGS California Water Science Center

Monloc Identifier: USGS-324804115461401 Monloc name: 016S012E06P001S

Monloc type: Well

Monloc desc: Not Reported

Huc code: 18100200 Drainagearea value: Not Reported Drainagearea Units: Not Reported Contrib drainagearea: Not Reported Contrib drainagearea units: Not Reported 32.8011689 Latitude: -115.7713925 Not Reported Longitude: Sourcemap scale: Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 32.00 Vert measure units: feet Vertacc measure val: .1

Vert accmeasure units: feet

Vertcollection method: Level or other surveying method

Vert coord refsys: NGVD29 Countrycode:

Aquifername: Basin and Range basin-fill aquifers

Formation type: Not Reported

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported

Construction date:1958Welldepth:364Welldepth units:ftWellholedepth:388

Wellholedepth units: ft

Ground-water levels, Number of Measurements: 0

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance

Comments:

Database EDR ID Number

1 NE OIL_GAS CAOG9A000002943 1/2 - 1 Mile

Districtnu: 1 Apinumber: 02500038 Blmwell: Ν Redrillcan: Not Reported

Wellstatus: Dryhole: Ν

Operatorna: Chevron U.S.A. Inc. Countyname: Fieldname:

Imperial Any Field Areaname: Any Area

Section: 6 16S 12E Township: Range:

SB Elevation: Not Reported Basemeridi:

Locationde: Not Reported 32.80016 Glat: Glong: -115.771714 Gissourcec: hud

Not Reported Leasename: F. D. Browne Wellnumber: Epawell: Ν Hydraulica:

Confidenti: Spuddate: 30-DEC-99 Ν Redrillfoo: Welldeptha: Not Reported Not Reported

Abandonedd: Completion:

PDH CAOG9A000002943 Gissymbol: Site id:

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92274	1	0

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor Living Area - 2nd Floor	1.450 pCi/L Not Reported	100% Not Reported	0% Not Reported	0% Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map. USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208 Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at

private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

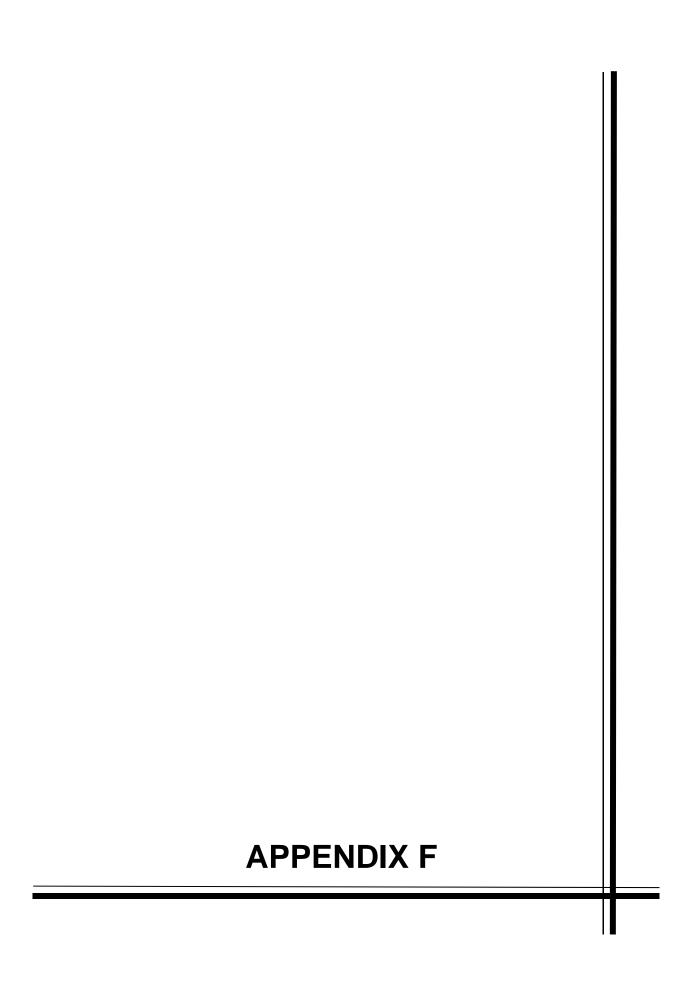
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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780 N. 4th Street El Centro, CA 92243 (760) 337-1100

Phase I Environmental Site Assessment (ESA) User Questionnaire

Client: SEPV Imperial, LLC

Project: SEPV Dixieland West

Completed By: Michael Stern

Relationship to Property: Buyer

Date Completed: April 22, 2015

1) Environmental cleanup liens that are filed or recorded against the site.

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law?

No.

2) Activity and land use limitations (AUL's) that are in place on the site or that have been filed or recorded in a registry.

Are you aware of any AUL's, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

4) Relationship of the purchase price to the fair market value of the property if it were not contaminated.

Does the purchase price being paid for this property reasonable reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

Yes, the purchase price reflects the fair market value.

5) Commonly know or reasonably ascertainable information about the property.

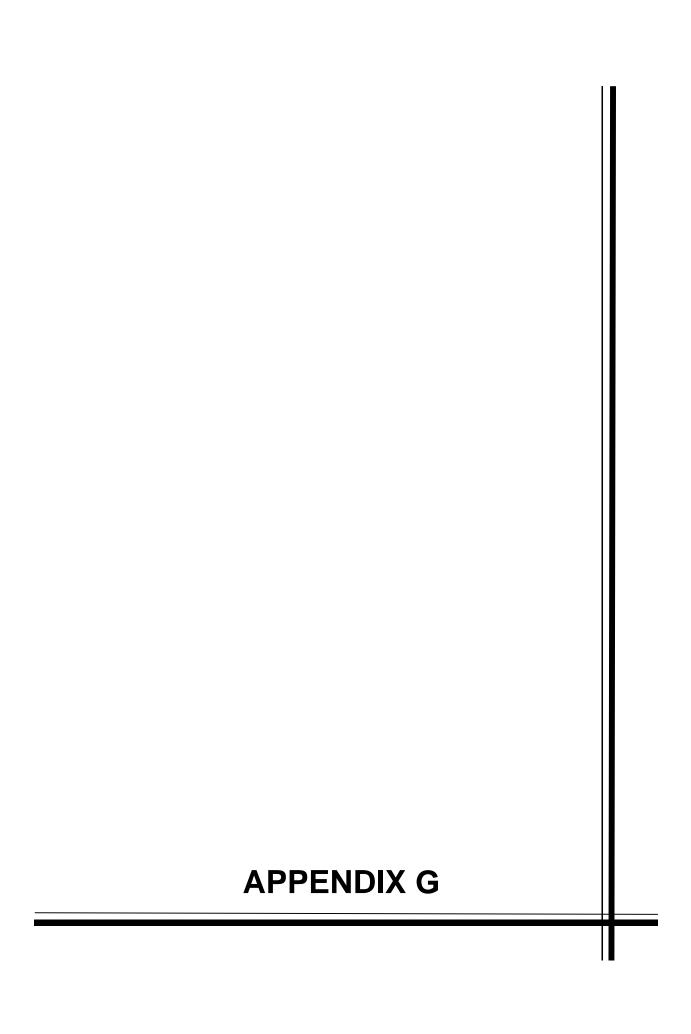
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

- a. Do you know the past uses of the property? If so what were they? *No*.
- b. Do you know of specific chemicals or oils that are present or once were present at the property? *No.*
- c. Do you know of spills or other chemical releases that have taken place at the property?
 No.
- d. Do you know of any environmental cleanups that have taken place at the property?
 No.

6) The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No.





Education

B.S. Civil Engineering (Magna Cum Laude) California Polytechnic University, Pomona Campus 1978

Registration

Registered Civil Engineer No. 31921, California Registered Civil Engineer No. 16994, Arizona

Professional Experience

1987 - Present	Principal Engineer
	Southland Geotechnical, Inc.
1982 - 1987	Principal Engineer
	Lyon Engineers, Inc.
1978 - 1981	Partner/Senior Engineer
	Tesco Engineering
1974 - 1977	Survey Party Chief
	Tesco Engineering
1972 - 1973	Survey Party Chief
	Lyon & Associates

Summary of Experience

As Principal Engineer, Mr. Lyon is responsible for financial and technical management of all employees in Southland Geotechnical's four branch offices. Mr. Lyon has performed site investigations for residential geogrid-reinforced slopes, shopping subdivisions, centers, military airfields, roadways, administration and office buildings, elementary and high schools, goldmine mill processing facilities, hydro-electric plants, power transmission lines, electrical substations, co-generation power plants and geothermal power plants. He has provided design for drilled piers, driven piles, stone columns and floating (rigid) mats, and has performed seismic risk evaluations, ground shaking analyses, liquefaction studies and liquefaction induced settlements studies. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial and Coachella Valleys for over 20 years. Mr. Lyon's experience also includes forensic investigations for foundation/structural distress to residential, commercial and educational facilities, and has performed pressure grout stabilization and lifting for distress remediation.

Jeffrey O. Lyon, PE Principal Engineer

Selected Project Experience

Aten Road Improvements, Imperial, CA

Performed Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

Gateway to the Americas, Calexico, CA

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico

El Centro Magistrate Court, El Centro, CA

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis

- El Centro Regional Medical Center, El Centro, CA Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- Brawley Union High School, Brawley, CA
 Conducted Phase II investigation for PCB and lead
 contamination of surficial soil and hydrocarbon
 contamination of subsurface soil of a property proposed
 for purchase.

EW Corporation Site, Westmorland, CA

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase

- Various Apartment Complexes, Imperial County, CA Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- Hwy 98 Improvements, Imperial, CA

Performed Phase I environmental site assessment for improvements to Hwy 98 for a new intersection in accordance to CalTrans requirements.

Professional Affiliations

American Society of Civil Engineers, Member American Society of Testing Materials, Member American Concrete Institute, Certified Examiner Association of Professional Firms Practicing in the Geosciences, Member



Education

B.S. Business Management San Diego State University, 2005

Professional Experience

2006 - Present Environmental Technician GS Lyon, Inc.

Technical Seminars

ASTM E 1527-05 Environmental Site Assessments for Commercial Real Estate

Summary of Experience

As Environmental Technician, Mr. Lyon is responsible for conducting site visits and preparing Phase I ESA Reports. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial Valley for over 7 years.

Randy O. Lyon Environmental Technician

Selected Project Experience

· Aten Road Improvements, Imperial, CA

Conducted Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

- 8 Minutenergy, Calipatria/Calexico, CA
 Conducted Phase I ESA associated with the
 development of solar farms.
- Old Pioneer Van & Storage Site,234 Main Street, El Centro, CA

Conducted a Phase I ESA for the old Pioneer Van and Storage facility.

- Calipatria Family Apartments, Calipatria, CA
 Conducted Phase I ESA for the Calipatria Family
 Apartments complex.
- New School Site @ Latigo Ranch, Brawley, CA Conducted Phase I environmental site assessment for a proposed new school.
- · Stans Auto Body, El Centro, CA

Conducted a Phase I investigation and sampled surface and subsurface soils for hydrocarbon contamination of subsurface soil around body and paint shop.

 Old Chevron (Ortho) Bulk Fertilizer Facility, Calipatria County, CA

Conducted Phase I and Phase II environmental investigation consisting of sampling surface and subsurface soils for fertilizer contamination.

800-812 Imperial Avenue, Calexico, CA

Conducted Phase I environmental investigation and environmental sampling of surface and subsurface soils for hydrocarbon contamination.

Phase I ESA Report

Dixieland East Solar Project

Brown Road and Even Hewes Highway Seeley, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Boulevard, Suite 414 Los Angeles, CA 90049





Prepared by:

GS Lyon Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 337-1100

April 2015



Engineering And Information Technology

April 24, 2015

Mr. Freeman Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

> **Phase I Environmental Site Assessment Report Dixieland East Solar Project Brown Road and Evan Hewes Highway** West of Seeley, California GSL Report No. GS1505

Dear Mr. Hall:

We have performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at Brown Road and Evan Hewes Highway west of Seeley, California. Any exceptions to, or deletions from, this practice are described in Section 2.0 of this report. This assessment has not revealed any recognized environmental conditions (RECs) in connection with the property.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR §312 and we have the specific qualifications based on education, training and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Attached is our report which describes the procedures used and results of the assessment. If you have any questions or require additional information, please do not hesitate to contact the undersigned at (760) 337-1100. We appreciate the opportunity to provide our professional review for this site

> No. 31921 EXPIRES 12-31-16

Respectfully Submitted,

GS Lyon Consultants, Inc.

Jeffrey O. Lyon, P.E.

Principal Engineer

Randy O. Lyon

Environmental Technician

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1.0 INTRODUCTION

1.1 Purpose

GS Lyon Consultants, Inc. was retained by SEPV Imperial, LLC to conduct a Phase I Environmental Site Assessment (ESA) for the Property (herein referred to as the subject property or subject site in this Phase I ESA Report) as a prerequisite to property transaction (purchase, sale, refinance, etc.). The subject property is located at Brown Road and Evan Hewes Highway west of Seeley, California (See Figure 1 for a Vicinity Map of the subject property).

The purpose of this Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, recognized environmental conditions (RECs) associated with past and present activities on the subject site or in the immediate site vicinity in general conformance to ASTM Standard E-1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" that may affect future uses of the subject property.

This report is intended to satisfy the Phase I ESA portion of "all appropriate inquiry" into the previous ownership and uses of the subject site as defined under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at Title 42 of the United States Code (U.S.C.) §9601(35)(B) and in accordance with 40 Code of Federal Regulations (CFR) Part 312, Standards and Practices for All Appropriate Inquiries; Final Rule (AAI Rule).

1.2 Scope of Services

The scope of work for this ESA is in general accordance with the requirements of ASTM Standard E 1527-13. This assessment included:

- Reconnaissance of the subject property and adjacent properties
- Review existing Phase I ESA reports
- Review user-provided information
- Interviews with persons with significant knowledge of the subject property
- Review of a regulatory database report provided by a third-party vendor
- Review readily-available historical sources (including but not limited to: aerial photographs, fire insurance maps, property tax files, recorded land title records, and topographical maps)
- Prepare report of findings

1.3 Limitations

No Phase I ESA can completely eliminate uncertainty regarding the potential for RECs in connection with a property. Conformance of this assessment with ASTM Standard Practice E 1527-13 is intended to reduce, but not eliminate uncertainty regarding the potential for RECs in connection with the Subject Property. While GS Lyon has made every effort to discover and interpret available historical and current information on the property within the time available, the possibility of undiscovered contamination remains. Our assessment of the site and surrounding areas was conducted in accordance with ASTM guidelines and the *generally accepted environmental engineering standard of practice* which existed in Imperial County, California at the time that the report was prepared. No warranty, express or implied, is made.

GS Lyon Consultants, Inc. derived the data in this report primarily from visual inspections, examination of public records and information in the public domain, informal interviews with individuals, and readily available information about the site. The passage of time, manifestation of latent conditions or occurrence of future events may require further exploration of the site, analysis of the data, and reevaluation of the findings, observations, and conclusions expressed in this report.

The findings, observations, and conclusions expressed by GS Lyon Consultants in this report are not, and should not be considered, an opinion concerning the compliance of any past or present owner or operator of the site with any federal, state or local law or regulation.

This report should not be relied upon after **180 days** from the date of issuance, unless additional services are performed as defined in ASTM E 1527-13 - Section 4.7.

1.4 Deviations or Data Gaps

ASTM Standard E 1527-13 requires any significant data gaps, deviations, and deletions from the ASTM Standard to be identified and addressed in the Phase I ESA. A significant data gap would be one that affected the ability to identify a REC on the subject property or adjacent properties. Through the course of this assessment, *data failures* or *data gaps* may have been encountered. These failures or gaps, if any, are discussed below. The following provides the opinion of the Environmental Professional as to the significance of the data gaps in terms of defining *recognized environmental conditions* at the subject site. Data failures may or may not be significant data gaps, and the discussion also provides information pertaining to whether the data failures resulted in significant data gaps.

1.4.1 Data Failures

Data failure is a failure to achieve the historical (property use) research objectives specified in the ASTM Standard Practice even after reviewing the eight standard historical sources that are reasonably ascertainable and likely to be useful. Data failure is one type of data gap.

No data failures were encountered during this investigation.

1.4.2 Data Gaps

A *data gap* is a lack of or inability to obtain information required by the ASTM Standard Practice, despite good faith efforts by the Environmental Professional to gather such information. This could include any component of the Practice, e.g., standard environmental records, interviews, or a complete reconnaissance. A data gap by itself is not inherently significant, but if other information and/or the EP's experience raises reasonable concerns about the gap, it may be judged to be significant.

Due to the location of the subject property, Sanborn Fire Insurance maps were not available for the subject property. Because there is no historical data or physical indications that the property has ever been developed or occupied by a business that would have produced hazardous materials, the lack of Sanborn Fire Insurance maps is not considered a significant data gap.

Aerial photographs and other historical records were not available at 5 year intervals as required under the ASTM E 1527-13 standard. This resulted in a data gap for years that records were not available regarding the area of the subject site. However, based on other historical information reviewed, the subject site has been vacant desert lands used as farmland for a few years between 1978 and 1984. Therefore, this data gap is not considered to be significant.

1.5 Significant Assumptions

In preparing this report, GS Lyon Consultants, Inc. has relied upon and presumed accurate certain information (or the absence thereof) about the site and adjacent properties by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, GS Lyon Consultants has not attempted to verify the accuracy or completeness of any such information.

1.6 User Reliance

This report has been prepared on behalf of and for the exclusive use of SEPV Imperial, LLC for the particular subject property identified in this report, and is subject to and issued in connection with the referenced Agreement and the provisions thereof. This report should not be relied upon by any party other than the client, its legal counsel, and financial institution without the express permission of GS Lyon Consultants, Inc. Any reliance on this report by other parties shall be at such party's sole risk. Any future consultation or provision of services to third parties related to the subject property requires written authorization from SEPV Imperial, LLC or their representatives. Any such services may be provided at GS Lyon Consultants sole discretion and under terms and conditions acceptable to GS Lyon Consultants, including potential additional compensation.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The subject parcels are located at Brown Road and Evan Hewes Highway (APN 051-035-001, 051-035-002, 051-047-001 and 051-047-002) in Imperial County approximately 5 miles west of Seeley, California. The site location is depicted in Appendix B, Plate 2-Site Map.

2.2 Current Property Use and Description

The subject property is currently vacant land that had previously been used for farming/ranching uses. Due to the proximity to the open desert lands and the years vacant, the site looks like undeveloped desert land from the distance.

The site is separated to the north and south by a concrete lined irrigation ditch that runs along an elevated embankment from the Westside Main Canal to the west side of the property. The area to the north of this ditch has old barb wire and wood post fencing likely to have been used for livestock containment. The area south of the ditch has evidence of past agricultural use due to the pattern on the soil surface. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps no longer supply water to the ditch, but feed a 12 inch diameter PVC pressurized water line that supplies water to the Imperial Lakes development (homes surrounding water-ski lakes) about a ½ mile to the west of the subject site.

2.3 Adjoining Property Use

Properties surrounding the subject site consist of vacant desert land with rural lots and few remaining rural residences. The site is bounded to the north by the Centinela State prison, to the south by rural residence and empty Dixieland Townsite lots along Evan Hewes Highway, to the east by the Imperial Irrigation Districts (IID) Westside Main Canal and to the east by the IID electrical substation and a rural private residence.

2.4 Physical Site Characteristics

<u>Topography</u>: Topographic maps (USGS 7.5 minute Plaster City, CA Quadrangle) indicate that the elevation of the site is approximately 30-35 feet below mean sea level (Elevation 965 to 970 local datum). The Imperial Irrigation District (IID), which supplies power to the area, established local datum by equating mean sea level to El. 1000.00 feet.

Geologic Setting: The site is located in the Colorado Desert Physiographic province of southern California. The dominant feature of the Colorado Desert province is the Salton Trough, a geologic structural depression resulting from large-scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and the southwest by faults of the San Jacinto Fault Zone. The Salton Trough represents northward extension of the Gulf of California, which has experienced continual in-filling with both marine and non-marine sediments since the Miocene Epoch (25 million years before present). The tectonic activity that formed the trough continues at a high rate as evidenced by deformed young sedimentary deposits and high levels of historic seismicity.

The site is directly underlain by Holocene (0-11,000 years before present) Cahuilla Lake beds, which consist of interbedded lenticular and tabular sand, silt, and clay. The highstand of Lake Cahuilla is at Elevation 45. The predominant surface soil is silty sand. The Holocene lake deposits are considered to be less than 100 feet thick and are characterized by surficial clay and silt deposits with varying amounts of fine sand. The topography of the Imperial Valley is relatively flat, with few significant land features. The valley floor slopes gently to the north (less than 0.5 percent) from an elevation of sea level at Calexico to approximately 225 feet below sea level at the Salton Sea (approximately 45 miles north).

<u>Soil Conditions</u>: The U. S. Soil Conservation Service compiled a map of surface soil conditions based on a thirteen-year study from 1962-1975. The Soil Survey maps were published in 1981 and indicate that surficial deposits at the sites and surrounding area consist predominantly of sandy loams of the Meloland soil group (see Plate 3 and soil descriptions in Appendix B). These loams and sands are formed in sediment and alluvium of mixed origin (Colorado River overflows, Mountain run-off and fresh-water

lake-bed sediments). Based on Unified Soil Classification System presented in the Soils Survey Report, the permeability of these soils ranges from high to medium.

<u>Groundwater Conditions</u>: The groundwater in the site area is brackish and is estimated to be encountered at a depth of 10-15 feet below the ground surface. Depth to groundwater may fluctuate due to localized geologic conditions, precipitation, irrigation, drainage and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the west within the site area. Flow directions may also vary locally in the vicinity of the site.

3.0 USER PROVIDED INFORMATION

In order to qualify for one of the *Landowner Liability Protections (LLPs)* offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *Brownfields Amendments*), the *User* must provide the following information (if available) to the *environmental professional*. Failure to provide this information could result in a determination that *all appropriate inquiry* is not complete. The user was asked to provide information or knowledge of the following:

- Environmental cleanup liens that are filed or recorded against the site.
- Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry.
- Specialized knowledge or experience of the person seeking to qualify for the LLPs.
- Relationship of the purchase price to the fair market value of the *property* if it were not contaminated.
- Commonly known or reasonably ascertainable information about the property.
- The degree of obviousness of the presence or likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation.
- The reason for preparation of this Phase I ESA.

A user questionnaire was provided to the user to aid in gathering information that may be pertinent to the evaluation of the subject site for environmental conditions. The completed user questionnaire is provided in Appendix E.

3.1 Title Records

GS Lyon was provided with preliminary title documents by SPEV Imperial for review for the presence of environmental liens and activity and use limitations on the.

3.2 Environmental Liens or Activity and Use Limitations

An environmental lien is a charge, security, or encumbrance upon the title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon the property. According to the preliminary title documents and user questionnaire, there are no Environmental Liens or Activity and Use Limitations associated with the subject site that have been filed or recorded under federal, tribal, state or local law.

3.3 Specialized Knowledge

According to the User Questionnaire, SEPV Imperial does not have specialized knowledge or experience related to the subject site or surrounding properties.

3.4 Commonly Known or Reasonable Ascertainable Information

No information was provided by the Client regarding any commonly known or reasonably ascertainable information within the local community that is material to RECs in connection with the subject property.

3.5 Valuation Reduction for Environmental Issues

The client indicated that the purchase price of this property reasonably reflects the fair market value of the property with no discounts for environmental issues.

3.6 Owner, Property Manager, and Occupant Information

The current owners that comprise the subject site are:

(051-047-001 and 051-035-001) Lola G Pershall & Mark J Slitton 824 Dearborn Caldwell, ID 83605

(051-047-002) Terrance C Foster 803 East J Street Chula Vista, CA 91910

(051-035-002) Salvation Army 2320 5th Avenue San Diego, CA 92101

3.7 Previous Reports and Other Provided Documentation

No record of a Phase I Environmental report being performed on the subject site have been found by or presented to GS Lyon personnel.

4.0 RECORDS REVIEW

A review of historic topographic maps (Appendix B), historic aerial photographs (Appendix C), and governmental regulatory databases (Appendix D) was performed to evaluate potentially adverse environmental conditions resulting from previous ownership and uses of the site. The details of the review are presented in Sections 4.1 through 4.5 of this report.

4.1 Regulatory Database Review

4.1.1 Standard Environmental Record Sources

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut which queries and maintains comprehensive environmental databases and historical information, including proprietary databases, aerial photography, topographic maps, Sanborn Maps, and city directories to generate a compilation of Federal, State and Tribal regulatory lists containing information regarding hazardous materials occurrences on or within the prescribed radii of ASTM Practice E 1527-13. The search of each database was conducted using the approximate minimum search distances from the subject property defined by the Standard. The purpose of the records review is to obtain and review *reasonably ascertainable* records that will help identify *recognized environmental conditions* or *historical recognized environmental conditions* in connection with the subject site.

EDR's Phase I ESA search package was ordered and performed on April 8, 2015. The search package included: Radius Map report, Sanborn Fire Insurance Map report and historic aerial photographs.

The results of EDR's search were used to evaluate if the subject property and/or properties within prescribed search distances are listed as having a past or present record of actual or potential environmental impact. Inclusion of a property in a government database list does not necessarily indicate that the property has an environmental problem.

The following is a brief synopsis of sites identified in the EDR Radius Map report. The government record search report is included in its entirety in Appendix D.

Federal NPL List

The Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste sites was reviewed for risk sites within a 1 mile radius of the subject site.

The NPL identifies sites for priority cleanup and long-term care of properties under the Superfund Program that are contaminated with hazardous substances.

The database search did not identify any NPL sites within 1 mile of the subject site.

Federal CERCLIS List

The EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listings were reviewed to determine if risks sites within ½ mile are listed for investigation. The CERCLIS database identifies hazardous waste sites that are on or proposed to be included in the NPL and sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.

The CERCLIS database search did not identify any risk sites within ½ mile of the subject site.

Federal CERCLIS - No Further Remedial Action Planned

The EPA's CERCLIS – No Further Remedial Action Planned (NFRAP) database was reviewed to determine if risks sites within ½ mile are listed. CERCLIS NFRAP site are risk sites that have been removed from and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at the site has been completed and the EPA has determined that no further steps will be taken to list this site on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time.

This designation is for sites where no contamination was found, contamination was quickly removed without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

The CERCLIS – NFRAP database search did not identify any risk sites within $\frac{1}{2}$ mile of the subject site.

Federal RCRA List

The Federal Resource Conservation Recovery Act (RCRA) Notifiers List was reviewed to determine if RCRA treatment, storage or disposal sites (TSD) are located within 1 mile of the subject site. The RCRA Correction Action Sites List (CORRACTS) is maintained for risk sites which are undergoing "a corrective action".

A corrective action order is issued when there has been a release of hazardous waste constituents into the environment from a RCRA facility.

The RCRA and RCRA CORRACTS database searches did not identify any RCRA TSD or RCRA CORRACTS risk sites within ½ mile of the subject site.

The RCRA regulated hazardous waste generator notifiers list was reviewed to determine if RCRA generator facilities are located on or adjoining the subject site.

No RCRA generator facilities within ½ mile of the subject site were identified in the database.

Federal ERNS List

The Federal Emergency Response Notification System (ERNS) List was reviewed to determine if reported release of oil and/or hazardous substances occurred on the subject site.

The ERNS database searches did not identify any reported releases for the subject site.

California Department of Toxic Substances Control Sites (CALSITES)

The Department of Toxic Substances Control (DTSC) CALSITES database contains potential or confirmed hazardous substance release properties.

The CALSITES database did not identify any risk sites within 1 mile of the subject site.

Hazardous Waste and Substance Sites List (CORTESE)

The California EPA, Office of Emergency Information maintains a database which identifies risk sites that are designated by the California State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS) and the Department of Toxic Substances Control (DTSC).

The CORTESE database did not identify any risk sites within ½ mile of the subject site.

Solid Waste Landfill Facilities

The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data comes from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF database did not identify risk sites within ½ mile of the site.

Underground Storage Tank Sites

The California State Water Resources Control Board (SWRCB) underground storage tank (UST) inventory list was reviewed to determine if any UST's are located on or adjacent to the subject site.

The SWRCB UST database did not identify any risk sites within ¼ mile of the subject site.

Leaking Underground Storage Tank Sites

The California SWRCB maintains a list of information concerning reported leaking underground storage tanks (LUST). The LUST inventory list was reviewed to determine if any LUSTs are located within ½ mile the subject site.

The SWRCB LUST database did not identify any risk sites within ½ mile of the subject site.

Hazardous Waste Information System (HAZNET) Sites

The Hazardous Waste Information System (HAZNET) database identifies manifests that have been issued for a property.

The HAZNET database did not identify the subject site as a risk site.

Unmapped (Orphan) Sites

Not all sites or facilities identified in the database records can be accurately located in relation to the Subject Property due to incomplete information being supplied to the regulatory agencies and are referred to as "orphan sites" by EDR.

The "Orphan Summary" section of the EDR Radius Map Report identified several orphan sites. Based on a drive-by reconnaissance of the Subject Property vicinity and review of location and status information provided in the database report, none of the identified orphan sites are located within the search radii for databases specified by the Standard. One orphan listing was reported. The orphan site listed is US Gypsum Co. which is

located on Evan Hewes Highway, approximately 4 miles west of the subject site. Therefore, the listed orphan site does not pose a risk to the subject site.

4.1.2 Additional Environmental Record Sources

<u>CUPA Records Search</u>: The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. Cal/EPA and other state agencies set the standards for their programs while local governments implement the standards—these local implementing agencies are called Certified Unified Program Agencies (CUPA).

The local Department of Toxic Substances Control (DTSC) Imperial Certified Unified Program Agency (CUPA) office was contacted on April 7, 2015 concerning hazardous substance releases for the project site and proximal properties. Ms. Veronica Lopez responded to our inquiry that CUPA did not have any records for the site.

4.2 Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the property's first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the property. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs.

Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

GS Lyon reviewed the following historical records to identify obvious uses of the subject property from the present back to the property's first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

4.2.1 Title Records

Preliminary title document were provided by the proponent for review for the presence of environmental liens and activity and use limitations on the property. No environmental liens or activity and use limitations were noted in the title documents.

4.2.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the sites and vicinity, Sanborn Fire Insurance Maps do not cover the subject site. An "unmapped property" report is included in Appendix D.

4.2.3 Aerial Photographs

Aerial photographs provided by EDR in April 2015 from various sources (US Army, NASA, USGS, EDR) dating back to 1949 were reviewed for historical development of the subject site. Reproductions of the historical aerial photographs reviewed are included in Appendix C.

The 1949, 1953 and 1978 aerial photographs show the site as undeveloped desert land. The Dixieland Schoolhouse was located adjacent to the west of the site during these years.

The 1984 aerial photograph shows the site as having been an agricultural field, now out of production. It is unknown how long the site was used for agricultural use and no aerial photographs could be found showing the site being in agricultural production. Only the fallow field rows can be seen in the aerial photographs. An IID substation has been built to the west of the subject site, which remains in present day.

The 1996, 2002, 2006 and 2012 aerial photographs show the site as being fallow agricultural land, which has been inhabited by the native desert vegetation.

4.2.4 Historic Topographic Maps

The 1957 and 1976 USGS 7.5 Min. Plaster City, CA Quadrangle topographic maps do not show development on the project site.

4.3 **Historical Use Summary**

4.3.1 Summary of the Historical Use of Property

Based on a review of the historical information, the subject property was vacant desert land from 1949 to 1979. Somewhere between 1979 and 1984 the subject property was used as agricultural land. From 1984 to present the site was out of agricultural production and native desert plant inhabited the site.

4.3.2 Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject property have been comprised of vacant desert lands and rural residences. The IID substation can be seen from 1949 to present adjacent to the west of the subject site. The Centinela State Prison was built in approximately 1989 to the north of the subject site.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

A site reconnaissance was performed by Mr. Randy Lyon, an environmental technician of GS Lyon, on April 7, 2015. The site visit consisted of driving the perimeter of the site and randomly crossing the site. The reconnaissance included visual observations of surficial conditions at the site and observation of adjoining properties to the extent that they were visible from public areas. Mr. Lyon was unaccompanied during the site reconnaissance.

The site reconnaissance was limited to visual and/or physical observation of the exterior of the subject property improvements, the current uses of the property and adjoining properties, and the current condition of the property. The site visit evaluated the subject property and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, or accidental release, including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestoscontaining materials, radon, lead-based paint, mold, indoor air quality, or structural

defects, or other non-scope items.

The site reconnaissance can be limited by weather conditions, bodies of water, adjacent buildings, or other obstacles. The weather was warm and sunny and no access limitations were placed on our site visit.

5.2 General Site Setting

The subject property is currently vacant land that had previously been used for farming/ranching uses. Due to the proximity to the open desert lands and the years vacant, the site looks like undeveloped desert land from the distance.

The site is separated to the north and south by a concrete lined irrigation ditch that runs along an elevated embankment from the Westside Main Canal to the west side of the property. The area to the north of this ditch has old barb wire and wood post fencing likely to have been used for livestock containment. The area south of the ditch has evidence of past agricultural use due to the pattern on the soil surface. A set of water pumps and electrical transformer is located at the east end of the concrete lined ditch. The pumps no longer supply water to the ditch, but feed a 12 inch diameter PVC

The pumps no longer supply water to the ditch, but feed a 12 inch diameter PVC pressurized water line that supplies water to the Imperial Lakes development (homes surrounding water-ski lakes) about a quarter mile to the west of the subject site.

Photographs of the sites taken on April 7, 2015 during our site reconnaissance visit are included in Appendix A.

5.3 Adjacent Properties

Properties surrounding the subject site consist of vacant desert land with rural lots and few remaining rural residences. The site is bounded to the north by the Centinela State prison, to the south by rural residence and empty lots along Evan Hewes Highway, to the east by the Imperial Irrigation District (IID) Westside Main Canal and to the east by an IID electrical substation and a rural private residence.

5.4 Exterior and Interior Observations

The following conditions were specifically assessed for their potential to indicate RECs and may include conditions inside or outside structures on the subject property.

5.4.1 Hazardous Substances and Petroleum Products

No hazardous substances or petroleum products were noted on the subject site.

5.4.2 Storage Tanks

<u>Underground Storage Tanks (USTs)</u> – No obvious visual evidence indicating the current presence of USTs (i.e. vent pipes, fill ports, etc.) was noted.

Aboveground Storage Tanks (ASTs) – No above ground storage tanks were noted.

5.4.3 Odors

No obvious strong, pungent, or noxious odors were noted during the site reconnaissance.

5.4.4 Pools of Liquid

Pools of liquid were not observed during the site reconnaissance.

5.4.5 Drums and Containers

GS Lyon did not observe drums or storage containers on the subject site.

5.4.6 Unidentified Substance Containers

GS Lyon did not observe open or damaged containers containing unidentified substances at the subject site.

5.4.7 Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

Pole-mounted sealed electrical transformers owned and maintained by the Imperial Irrigation District (IID) are located at the subject site. The IID has replaced all transformers that contained PCB's. No leaks were noted during our site visit.

5.5 Interior Observations

The subject property is currently vacant with no structures onsite.

5.5.1 Heating/Cooling

The subject property is currently vacant with no structures onsite.

5.4.2 Stains or Corrosion

No evidence of stains or corrosion was noted on the subject property.

5.4.3 Drains and Sumps

No evidence of drains or sumps was noted on the subject property.

5.6 Exterior Observations

5.6.1 Pits, Ponds, and Lagoons

No evidence of pits and/or lagoons was noted on the subject property.

5.6.2 Stained Soils or Pavement

No evidence of stained soil or pavement was noted on the subject property.

5.6.3 Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the subject property.

5.6.4 Solid Waste

No debris piles were noted on the subject property.

5.6.5 Wastewater

No wastewater was noted as being generated on the subject property.

5.6.6 Wells

There were no wells noted on the subject property.

5.6.7 Septic Systems

There were no septic systems noted on the subject property.

5.7 Non-Scope Issues

ASTM guidelines identify non-scope issues, which are beyond the scope of a Phase I ESA as defined by ASTM. These issues may affect environmental risk at the subject property and may warrant discussion and/or assessment. Some of these non-scope issues include; asbestos-containing building materials, radon, lead-based paint, and wetlands which are discussed below.

5.7.1 Asbestos-Containing Building Materials

There is low risk of asbestos containing materials (ACM) existing at the subject property due to the lack of development on the subject property.

5.7.2 Lead-Based Paint

The risk of lead based paint existing at the subject property is low due to the lack of development on the subject property.

5.7.3 Radon

The subject property is located in Zone 3 as shown on the EPA Map of Radon Zones indicating a predicted average indoor radon screening level of less than 2 pCi/L; therefore, no further action is required. Radon gas is not believed to be a potential hazard at the site.

5.7.4 Wetlands

According to the EDR Report, there are no wetlands within one (1) mile of the subject property. Imperial Lakes (man-made watersports facility) is located about ½ mile to the west of the site.

5.7.5 Agricultural Use

Based on our review of environmental records, historical documents, and site conditions, the property was in agricultural use sometime between 1978 and 1984. The site vacant desert land prior and after these dates.

5.7.6 Flood Zones

A majority of the subject site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual chance floodplain (FIRM Panel 06025C0950C).

6.0 INTERVIEWS

GS Lyon interviewed individuals familiar with the subject property, as identified to us, and/or government officials in order to evaluate historical uses and identify potential RECs existing on the site. The individuals interviewed were asked to provide responses in good faith and to the best of their knowledge. The following sections identify the individuals interviewed and summarize the information each provided; however, additional information provided by these individuals may be presented in other sections of this report.

6.1 Interview with Local Government Officials

The local Department of Toxic Substances Control (DTSC) Imperial Certified Unified Program Agency (CUPA) office was contacted on April 7, 2015 concerning hazardous substance releases for the project site and proximal properties. Ms. Veronica Lopez responded to our inquiry that CUPA did not have any records for the site address.

7.0 EVALUATION

7.1 Summary of Findings

The subject site is located at Brown Road and Evan Hewes Highway west of Seeley, California. The subject property is currently vacant land that had previously been used for farming/ranching uses. Due to the proximity to the open desert lands and the years vacant, the site looks like undeveloped desert land from the distance.

7.2 Conclusions

GS Lyon has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM E1527-13 of the property located at Brown Road and Evan Hewes Highway west of Seeley, California. Any exceptions to, or deviations from, this practice are described in Section 1.4 of this Phase I ESA report.

7.2.1 Recognized Environmental Conditions

A recognized environmental condition (REC) refers to the presence or likely presence of any hazardous substance or petroleum product on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions that do not present a threat to human health and/or the environment and that would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies. This assessment has not revealed any RECs associated with the subject property.

7.2.2 Historical Recognized Environmental Conditions

A historical recognized environmental condition (HREC) refers to an environmental condition which would have been considered a REC in the past, but which is no longer considered a REC based on subsequent assessment or regulatory closure. This assessment has revealed the following HREC for the subject site:

• Pesticides/herbicides typically used for farming in the Imperial Valley are likely to have been used on the property (approximately 1978 to 1984). The pesticide residue levels typically found within agricultural soils are less than 25% of USEPA preliminary remediation goals (PRG's).

7.2.3 Environmental Concerns and De Minimis Conditions

This Phase I ESA has revealed no *de minimis* conditions or environmental concerns in connection with the subject site.

7.3 Recommendations

Based on the scope of work performed for this assessment, it is our professional opinion that no RECs have been identified in connection with the subject property that would warrant further environmental study (Phase II) at this time.

8.0 REFERENCES

- 40 CFR 312, Standards and Practices for All Appropriate Inquiries; Final Rule, November 2005 (AAI Rule).
- American Society for Testing and Materials. 2013. Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. Designation E 1527-13. West Conshohocken, Pennsylvania. 35 pp.
- Environmental Data Resources, Inc., *The EDR Radius Map*. Inquiry number 4257818.2s April 8, 2015.
- Federal Emergency Management Agency, Federal Insurance Administration, National Flood Insurance Program, Flood Insurance Map, Community Number 13089C0069J, dated May 16, 2013
- United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, accessed via the Internet, September 2013
- United States Environmental Protection Agency, EPA Map of Radon Zones (Document EPA-402-R-93-071), accessed via the Internet, September 2013

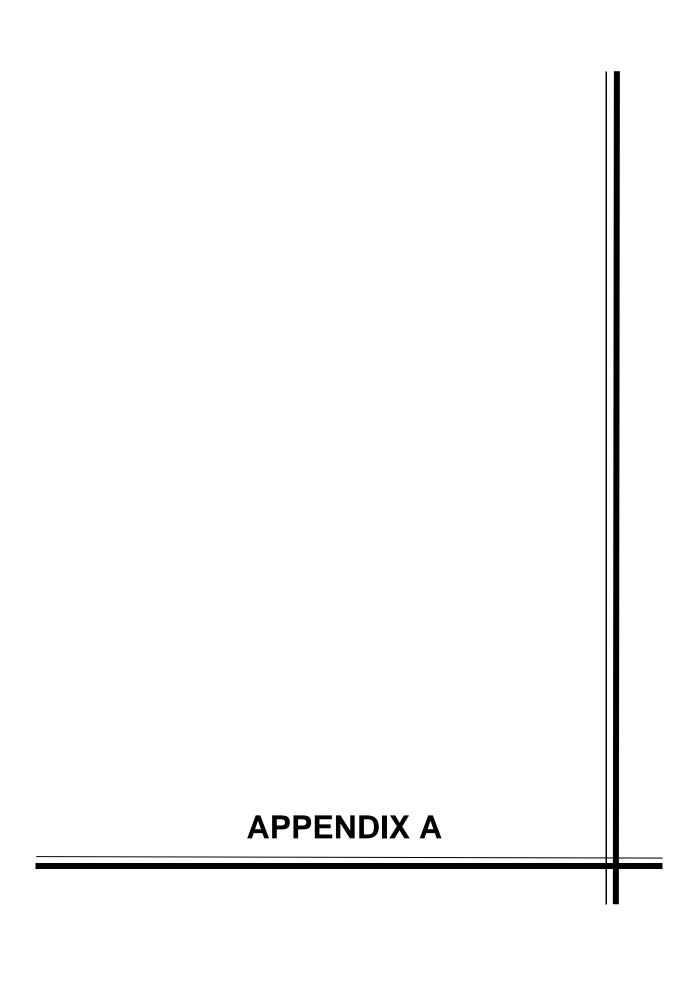




Photo 1: Subject site looking south along Brown Road from the North boundary of the site.



Photo 2: Subject site looking southeast from the corner of the north boundary and Brown Road.



Photo 3: Subject site looking east on the east side of Brown Road at the fenced area north of the berm.



Photo 4: Subject site looking south along the northeast boundary at the transformers and water pumps.



Photo 5: Subject site looking at the water pumps located along the West Side Main Canal.



Photo 6: Subject site looking west along the concrete lined ditch that sits on a berm separating the subject site to the north and south.



Photo 7: Subject site looking south from the berm separating the site.



Photo 8: Subject site looking at the evidence of agricultural rows once used for farming on the south side of the berm and ditch.



Photo 9: Subject site looking east along the southern boundary of the site east of **Brown Road.**



Photo 10: Subject site looking northeast from the corner of Brown Road and the southern boundary of the site.



Photo 11: Subject site looking north along the east side of Brown Road (Gas Pipeline runs along this area to the Prison).

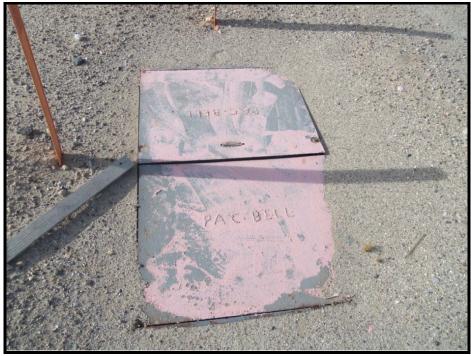


Photo 12: Subject site looking north along the east side of Brown Road at the Pac Bell (AT&T) telephone underground.



Photo 13: Subject site looking at a section of pipe buried in the concrete lined ditch, which delivers raw water to the Imperial Lakes development.



Photo 14: Subject site looking west along the concrete lined ditch on the west side of Brown Road.



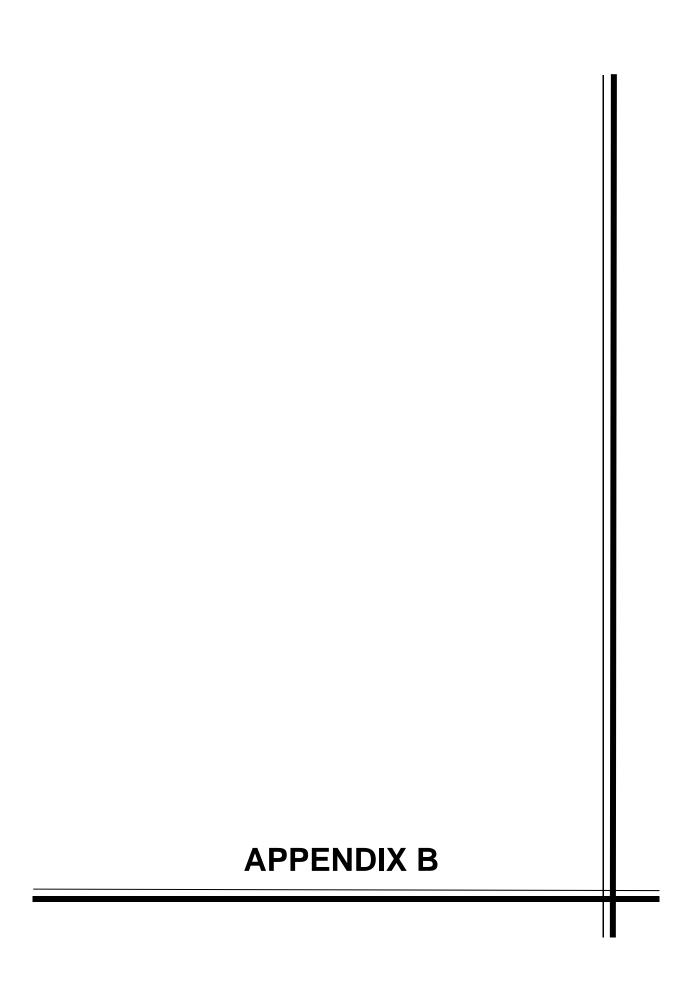
Photo 15: Subject site looking southwest from the corner of the north boundary and Brown Road.

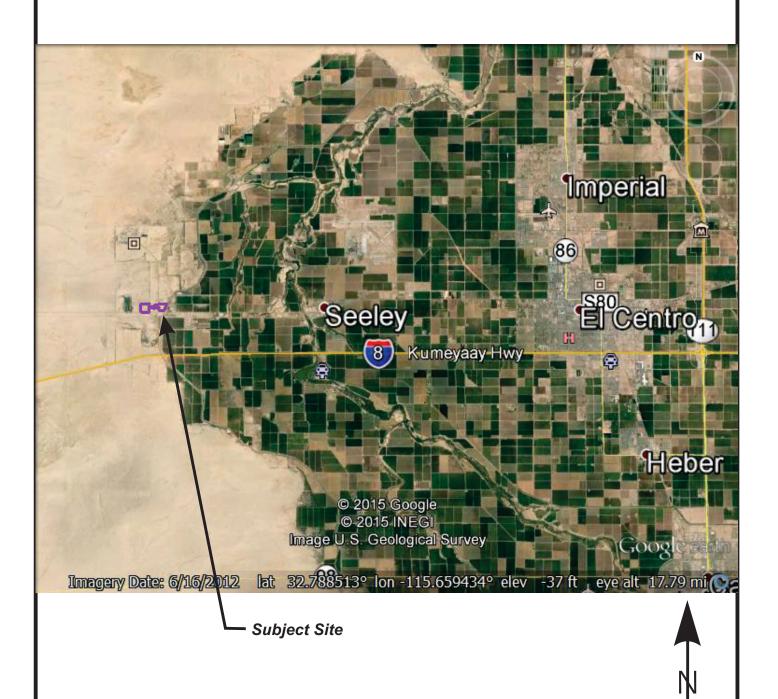


Photo 16: Subject site looking west along the dirt road running from Brown Road to the IID Substation.



Photo 17: Subject site looking west at the east side of the IID substation and the west boundary of the site.





GSELyon
Project No.: GS1505

Vicinity Map

Plate 1





Project No.: GS1505

Site Map

Plate

2



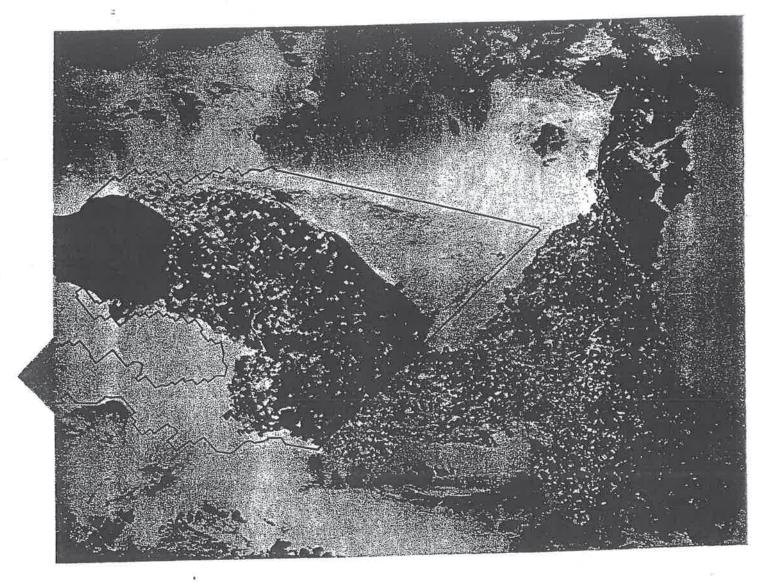




Soil Survey Map

Plate 3

IMPERIAL COUNTY CALIFORNIA IMPERIAL VALLEY AREA



United States Department of Agriculture Soil Conservation Service
in cooperation with
University of California Agricultural Experiment Station
and

Imperial Irrigation District

TABLE 11.--ENGINEERING INDEX PROPERTIES

[The symbol > means more than. Absence of an entry indicates that data were not estimated]

			Cl	assif:	catio	n	Frag- ments	Pe	sieve r	ge passi number	ng	Liquid limit	Plas- ticit
Soil name and map symbol	Depth	USDA texture	Uni	fied	AASH	TO I	> 3 inches	4	10	40	200	Pot	inde
00	<u>In</u> 0-13 13-60	Loamy fine sand Sandy loam, fine sandy loam.	SM SM		A-2 A-2, A-4		O O	100 90-100	100 75 - 95	75-85 50-60	10-30 15-40		N P N P
01*: Antho	8-00		SM SM		A-2 A-2, A-4		0	100 90-100	75-95	50-60	15-40		N P N P
Superstition	0-6		SM		A-2 A-2		0	100	95-100 95-100	70-85 70-85	15-25 15-25		N P N P
02*. Badland 03 Carsitas	0-10	Gravelly sand Gravelly sand, gravelly coarse sand, sand.	SP,	SP-SM SP-SM	A-1, A-1	A-2	0-5 0-5	60-90 60-90	50-85 50-85	30-55 25-50	0-10		N P N P
04* Fluvaquents 05 Glenbar	113-00	iclay loam, pricy	CL		A-6 A-6		0	100 100	100 100	90-100 90-100	70-95 70 - 95	35-45 35-45	15 - 15-
	 0-13 13-60	clay loam. Clay loam Clay loam, silty	CL		A-6,	A-7 A-7	0	100	100	90-100 90-100	 70-95 70-95	35-45 35-45	15- 15-
07*	í	clay loam.	ML,	-ML,	A-4		0	100	100	100		20-30	NP≖
Gleupan	113-60	Clay loam, silty clay loam	CL		A-6,	A-7	0	100		95-100	1	35-45	15-
08Holtville	0-14	!		СН	A-4 A-7 A-4		0	100 100 100	100	85-100 95-100 95-100	85 - 95 65 - 85	40-65 25-35	
09 Holtville	117-24	 Silty clay Clay, silty clay Silt loam, very	وطما	CH CH	A-7 A-7 A-4		0	100 100 100	100 100 100	95-100 95-100 95-100	185-95	40-65 40-65 25-35	20- 20- NP-
	35-60	fine sandy loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A-4	0	100	100	75-100			NI
10 Holtville	117-26	 Silty clay Clay, silty cla Silt loam, very	A 1 PIT 1	CL	A-7 A-7 A-4		0	100 100 100	100 100 100	195-100	85-95 85-95 155-85	40-65 40-65 25-35	20- 20- NP-
	35-60	fine sandy loam. Loamy very fine sand, loamy fine sand.	SM,	ML	A-2,	A-1	0	100	100	75-100	20-55		N

See footnote at end of table

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

	T I		Classification Frag-							Liquid	
Soil name and map symbol	Depth	USDA texture	Unified	AASHTO	> 3 inches	4	10	40	200	11mit	ticit index
11°: Holtville	110-22	Silty clay loam Clay, silty clay Silt loam, very	ich, ca	A-7 A-7 A-4	Pct 0 0 0	100 100 100	100 1	95-100 95-100 95-100	85-95	40-65 40-65 25-35	20-35 20-35 NP-10
	0 17	fine sandy loam. Silty clay loam Silty clay loam, silty clay,	CL	A-7 A-7	0	100	100	100	85-95 85-95	40-50 50-70	10-20 25-45
112 Imperia ¹	12-60	Silty clay loam, silty clay,	CH CH	A -7 A -7	0 0	100	100		85-95 85-95	50-70 50-70	25-45 25-45
113 Imperial	12-60	clay, silty	СН '	A-7 A-7	0	100 100	100 100		85-95 85-95	50-70 50-70	25-4° 25-4°
114Imperial	0-12	clay loam. 	сн сн	A-7 A-7	0	100 100	100		85 - 95 85 - 95	50-70 50-70	25-4 25-4
115*: Imperial	0-12 12-60		CL CH	A-7 A-7	0	100 100	100		85-95 85-95	40-50 50-70	10-2 25-4
Glenbar	0-13	clay. Silty clay loam Clay loam, silty clay loam,	CL	A-6, A-7 A-6, A-7	0	100 100	100	90-100 90-100	70-95 70-95	35-45 35-45	15-2 15-2
116*: Imperial	0-13 13-60	silty clay,	CL CH	A - 7 A - 7	0	100 100	100 100		85-95 85-95	40-50 50-70	10-3 25-4
Glenbar	0-13	clay. Silty clay loam Clay loam, silt	GL CL	A-6, A-7	0	100	100 100	90-100 190-100	70-95 170-95	35-45 35-45	15-
117, 118 Indio	0-12		y 111L	A - 4 A - 4	0	95-100 95-100	95-100 95-100	85-100 85-100	75-90 75-90	20-30 20-30	NP-
119*: Indio	- 0-1 12-7	2 Loam	A LIII	A - 4 A - 4	0	95-100 95-100	 95=100 95=100	85-100 85-100	75-90 75-90	20-30	NP-
Vint	- 0-1 10-6		SM SM	A-2 A-2	0	95-100 95-100	95-100	70-80	20-30		9 N P
120* Laveen	0-1 12-6		ML, CL-	46 A-4 46 A-4	0	100 95-100	95-100 185-95	75-85 70-80	55-65 55-65	20-30 15-25	NP-

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES--Continued

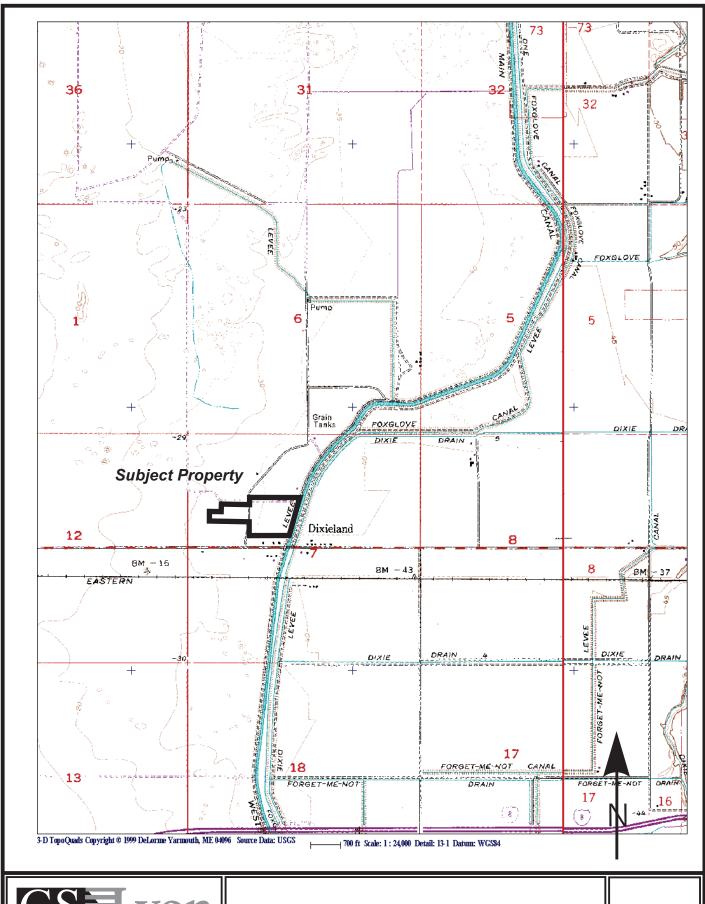
	Classifica					on Frag- Pe			Percentage passing sieve number		
Soil name and map symbol	Depth	USDA texture	Unified	AASHTO	> 3 inches	4	10	40	200	limit Pet	ticity index
	In			i	Pet						N.P
121 Meloland	0-12	Fine sand Stratified loamy	SM, SP-SM ML	A-2, A-3	0	95-100 100	90 -100 100	75-100 90-100	5-30 50-65	25-35	NP-10
	26-71	clay, silty	GL, CH	A-7	0	100	100	95-100	85~95	40-65	20-40
		clay loam.	MI	A-4	0	95-100	95-100	95-100	55 - 85	25-35	NP-10
22 Meloland	10	loam . Stratified loamy	1	A-4	0	100	100	90-100	50-70	25-35	NP-10
	12	fine sand to	CH, CL	A-7	0	100	100	95-100	85-95	40-65	20-40
23*: Meloland	0-12 12-26		ML ML	A - 4	0	95 - 100	95-100 100	95-100 90-100	55-85 50-70	25-35 25-35	NP-10 NP-10
	26-38	silt loam. Clay, silty	CH, CL	A-7	0	100	100	95-100	85 - 95	40-65	20-40
		clay, silty clay loam. Stratified silt loam to loamy	SM, ML	A-4	0	100	100	75-100	35-55	25-35	NP-10
Holtville	12-24	Silt loam, very	1011, 00	A-4 A-7 A-4	0 0	100 100 100	100	85-100 95-100 95-100	185-95	25-35 40-65 25-35	NP-10 20-35 NP-10
÷		fine sandy loam, Loamy very fine sand, loamy		A-2, A-4	0	100	100	75-100	 20 – 55 		ЯP
24, 125 Niland	121-00	fine sand. Gravelly sand Silty clay, clay, clay loam.	SM, SP-S CL, CH	A-2, A-3	0		100	85=100 	80-95	40-65	мР 20-40
20	0-23	Fine sand Silty clay	SM, SP-S	M A-2, A-3	0	i	100	85-100	80-95	40-65	NP 20-40
Niland 27 Niland	0 22	I .	SM	A-2 A-7	0	90-100	90-100 100	50-65 85-100	15-30 80-95	40-65	NP 20-40
128*: Niland	0-23 23-60	 Gravelly sand Silty clay, clay, clay loam.	SM, SP-S	M A-2. A-	0 0	90-100	70 - 95	50-65 85-100	5-25 80-100	40-65	NP 20-40
Imperial	0-12		CH CH	A-7 .	0 0	100	100	100	85-95 85-95	50-70 50-70	25-45 25-45
129*: Pits					. 0	100	80-100	40-70	5-15		ИР
130, 131 Rositas	i	Sand, fine sand,	1	A-3, A-1, A-2, A-2, A-1	0	1	80-100	1	l		NР

See footnote at end of table.

TABLE 11.--ENGINEERING INDEX PROPERTIES---Continued

Cail	name and	Depth	USDA texture	Classif	ication	Frag-	F	ercenta sieve	ge pass number-	ing	Liquid Liquid	Plas-
	symbol	ВСРО		Unified	AASHTO	> 3 inches	J4	1-0-	40	1 200-	IIMIE	ticity index
		In		†	T	Pot					Pet	
132 133	. 134. 135-	1	Fine sand	SM	A-3,	0	100	80-100	50-80	10-25		NP
Rositas	, 131, 135	•	 Sand, fine sand, loamy sand.	T .	A-2 A-3, A-2, A-1	0	100	80-100	-40-85 	5-30		NP
136 Rositas		0-4 4-60	Loamy fine sand Sand, fine sand, loamy sand.	SM SM, SP-SM	A-1, A-2	0	100	80-100 80-100	40-85 40-85	10-35 5-30		NP NP
137 Rositas		0-12 12-60	Silt loam Sand, fine sand, loamy sand.	ML SM, SP-SM	A-4 A-3, A-2, A-1	0	100	100 80-100	90-100 40-85	70-90 5-30	20-30	NP-5 NP
138 *: . Rositas-	के पहल हुआ अन्य पहले कही अन्य स्थान गया गये अन्य	4-60	Loamy fine sand Sand; fine sand, loamy sand.	SM SM, SP-SM	A-1, A-2 A-3, A-2, A-1	0	100	80-100 80-100	40-85 40-85	10-35 5-30		NP NP
Supersti	tion	0-6 6-60	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0	100	95-100 95-100	70-85 70-85	15-25 15-25		N P N P
139 Superstí	tion	0-6 6-6 0	Loamy fine sand Loamy fine sand, fine sand, sand.		A-2 A-2	0	100 100	95-100 95-100	70-85 70-85	15-25 15-25	#40 #40	NP NP
140*: Torriort	hents			9		eg.	1 1 1 1 1 1					
Rock out	crop											
141*: Torriort	hents .											
Orthids									05.05	40-65	15-25	NP-5
			Loamy very fine	SM, ML	A-4	0		ir I		1 3		N P
Vint	1		Loamy fine sand	SM	A-2	0	95-100	95-100				
143 Vint		0-12	Fine sandy loam	ML, CL-ML, SM,	A-4	0	100	100	75-85	45-55	15-25	NP-5
	1	12-60	Loamy sand, loamy fine sand.	SM-SC SM	A-2	0	95-100	95-100	70-80	20-30		ΝP
144*: Vint		0-10	Very fine sandy	SM, ML	A-4	٥	100	100	85~95	40-65	15-25	
		10-40	loam. Loamy fine sand Silty clay		A-2 A-7	0	95-100 100	95~100 100	70-80 95-100	20-30 85-95	40-65	NP 20-35
		Į.	Very fine sandy		A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
THGTOSam	1		loam. Stratified loamy very fine sand		A-4	0	95-100	95-100	85-100	75-90	20-30	NP-5
		40-72	to silt loam. Silty clay	CL, CH	A-7	0	100	100	95-100	85-95	40-65	20-35

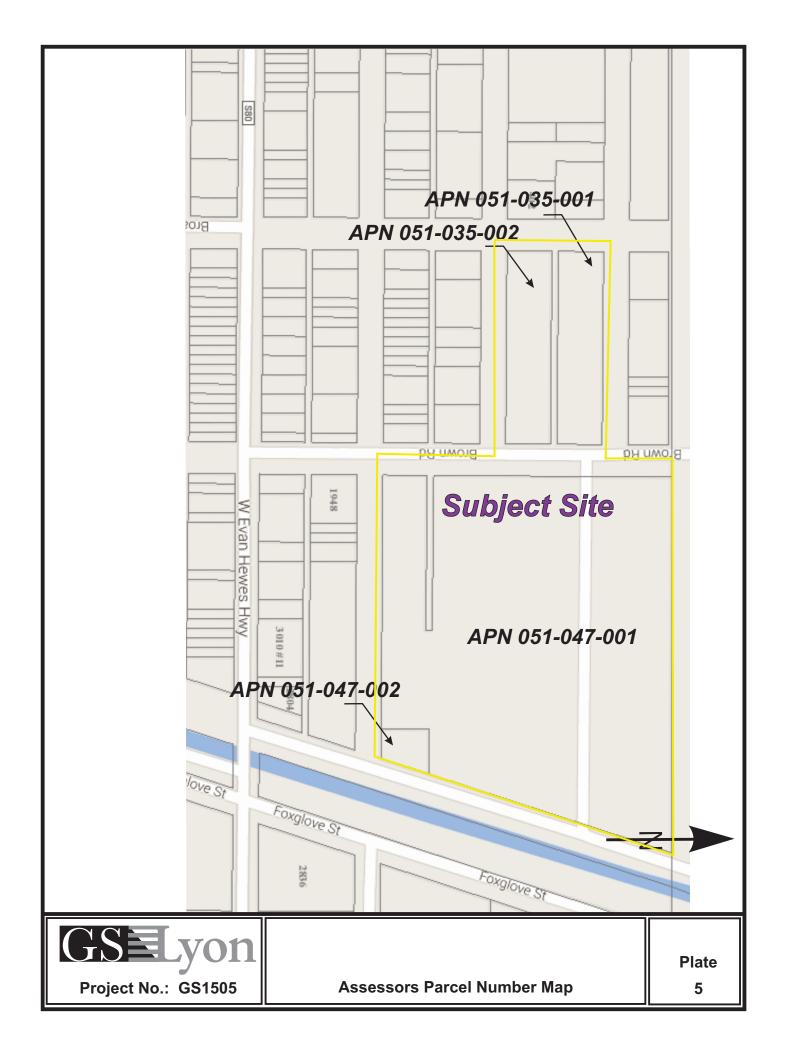
^{*} See description of the map unit for composition and behavior characteristics of the map unit.

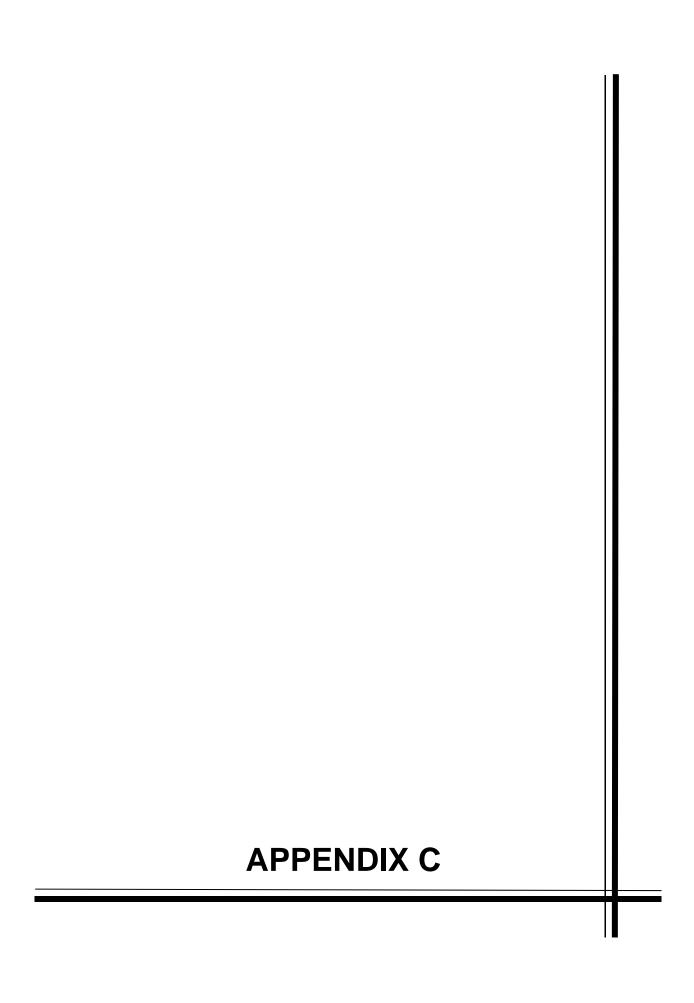


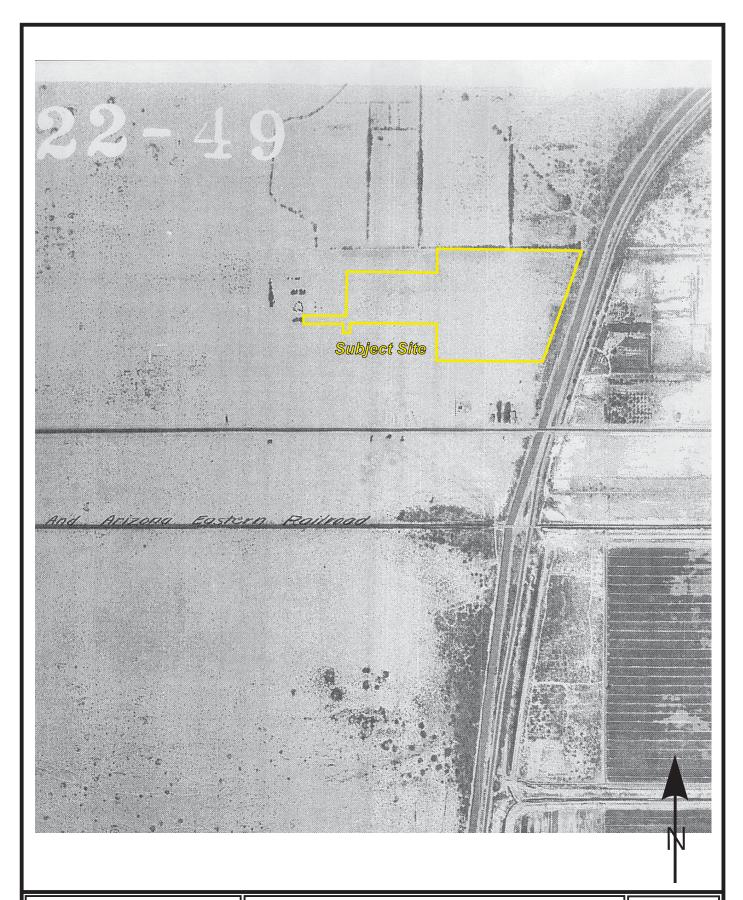
GSELyon
Project No.: GS1505

Topographic Map

Plate 4





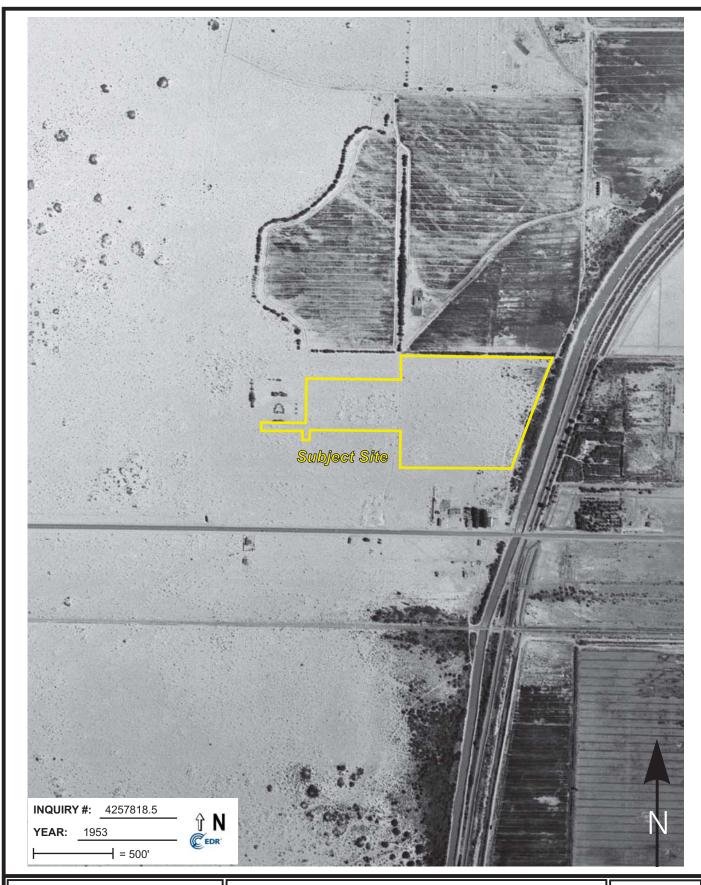




1949 Historic Aerial Photograph

Plate

6

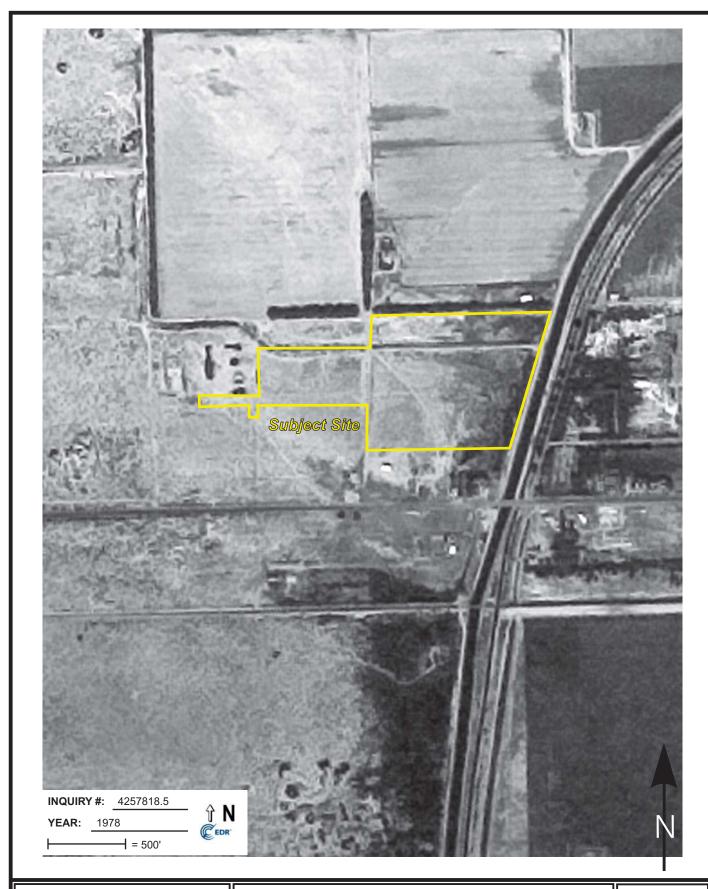




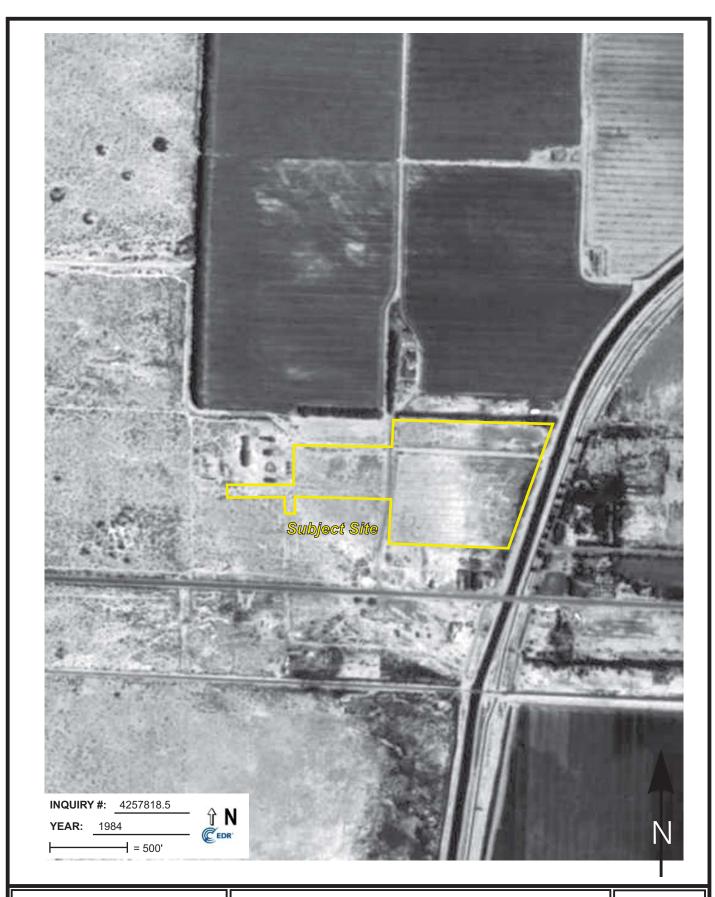
1953 Historic Aerial Photograph

Plate

7









1984 Historic Aerial Photograph

Plate 9





1996 Historic Aerial Photograph

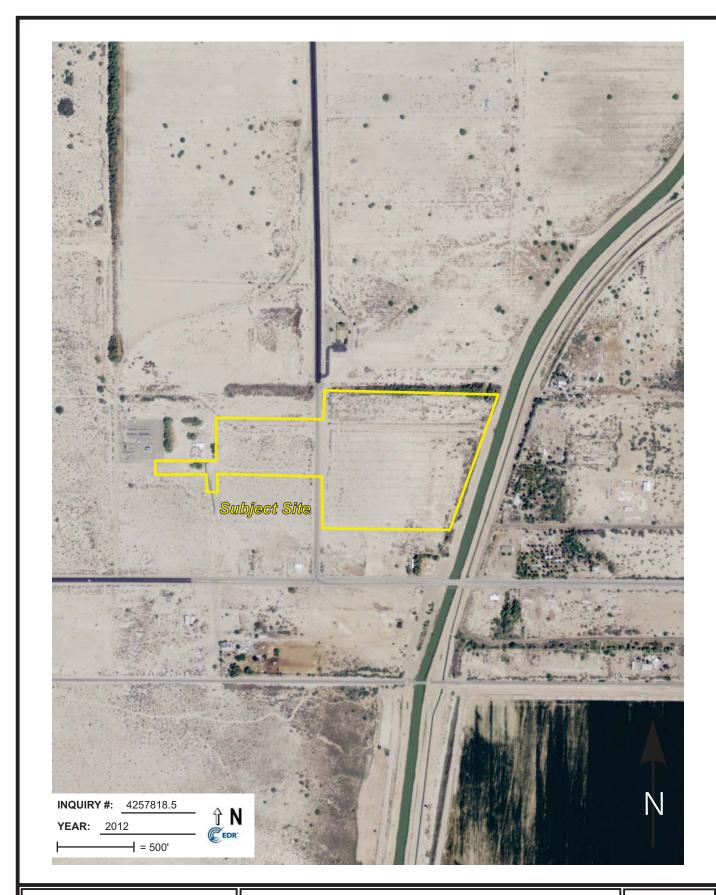
Plate 10



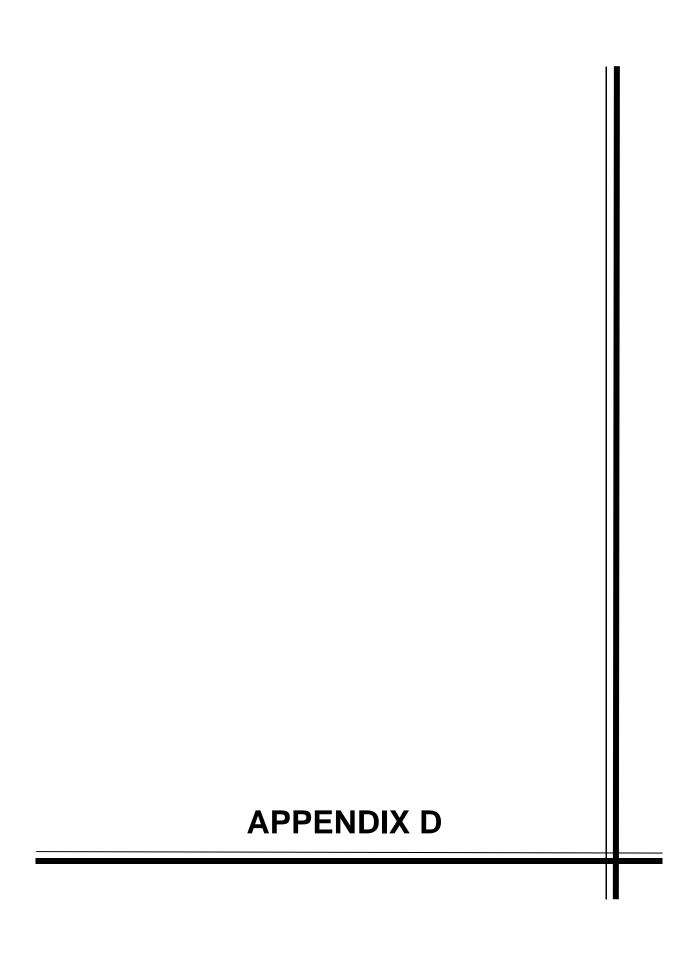












Dixieland East Solar Project

Brown Road and Evan Hewes Highway Thermal, CA 92274

Inquiry Number: 4257818.3

April 08, 2015

Certified Sanborn® Map Report



Certified Sanborn® Map Report

4/08/15

Site Name: **Client Name:**

Dixieland East Solar Project Brown Road and Evan Hewes Thermal, CA 92274

GS Lyon Consultants 780 N. Fourth Street El Centro, CA 92243



EDR Inquiry # 4257818.3 Contact: Randy Lyon

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by GS Lyon Consultants were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Dixieland East Solar Project

Brown Road and Evan Hewes Highway Address:

City, State, Zip: Thermal, CA 92274

Cross Street:

P.O. # NA **Project:** GS1505

A77B-41E8-AEFB Certification #



Sanborn® Library search results Certification # A77B-41E8-AEFB

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

Library of Congress

✓ University Publications of America

✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

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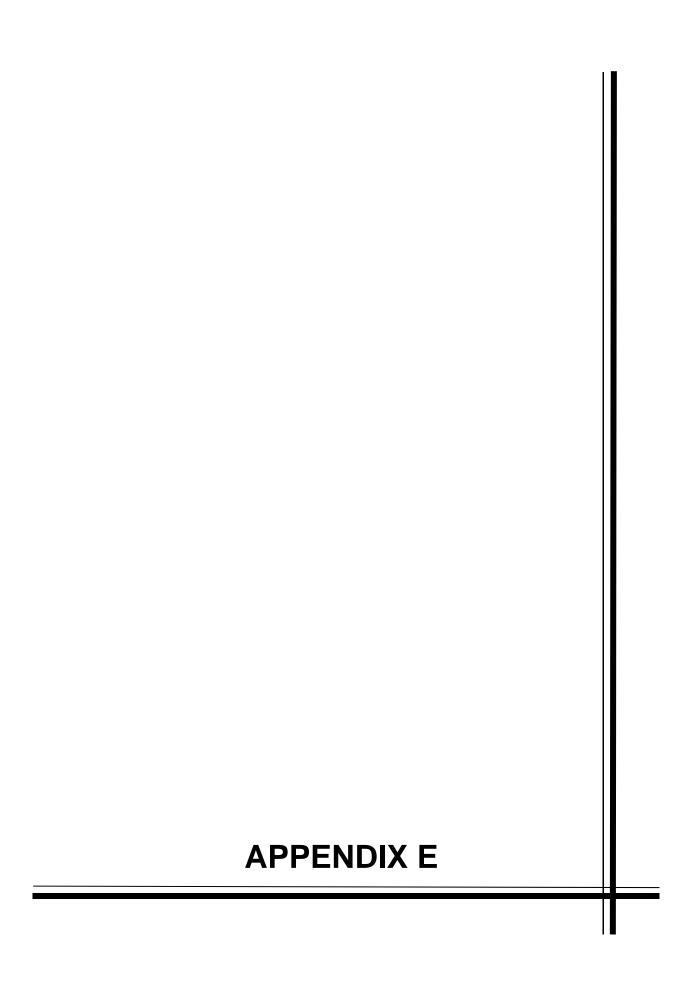
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Dixieland East Solar Project

Brown Road and Evan Hewes Highway Thermal, CA 92274

Inquiry Number: 4257818.2s

April 08, 2015

The EDR Radius Map™ Report with GeoCheck®

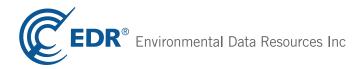


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Thank you for your business.Please contact EDR at 1-800-352-0050 with any questions or comments.

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A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BROWN ROAD AND EVAN HEWES HIGHWAY THERMAL, CA 92274

COORDINATES

Latitude (North): 32.7932000 - 32° 47' 35.52" Longitude (West): 115.7731000 - 115° 46' 23.16"

Universal Tranverse Mercator: Zone 11 UTM X (Meters): 614884.7 UTM Y (Meters): 3628837.2

Elevation: 31 ft. below sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 32115-G7 PLASTER CITY, CA

Most Recent Revision: 1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20120427 Source: USDA

MAPPED SITES SUMMARY

Target Property Address: BROWN ROAD AND EVAN HEWES HIGHWAY THERMAL, CA 92274

Click on Map ID to see full detail.

MAP RELATIVE DIST (ft. & mi.)

ID SITE NAME ADDRESS DATABASE ACRONYMS ELEVATION DIRECTION

NO MAPPED SITES FOUND

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal	NPI	Site	liet

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
NPL LIENS	Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY	Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls

LUCIS.....Land Use Control Information System

State and tribal leaking storage tank lists

LUST....... Geotracker's Leaking Underground Fuel Tank Report SLIC....... Statewide SLIC Cases INDIAN LUST...... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

State and tribal voluntary cleanup sites

INDIAN VCP......Voluntary Cleanup Priority Listing VCP.....Voluntary Cleanup Program Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9...... Torres Martinez Reservation Illegal Dump Site Locations ODI...... Open Dump Inventory

SWRCY....... Recycler Database

HAULERS...... Registered Waste Tire Haulers Listing

INDIAN ODI...... Report on the Status of Open Dumps on Indian Lands

WMUDS/SWAT______ Waste Management Unit Database

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs

HIST Cal-Sites Historical Calsites Database
SCH School Property Evaluation Program
Toxic Pits Toxic Pits Cleanup Act Sites

CDL_____ Clandestine Drug Labs

US HIST CDL..... National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

CA FID UST..... Facility Inventory Database

HIST UST..... Hazardous Substance Storage Container Database

SWEEPS UST..... SWEEPS UST Listing

Local Land Records

LIENS 2...... CERCLA Lien Information
LIENS...... Environmental Liens Listing
DEED...... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS...... Hazardous Materials Information Reporting System CHMIRS..... California Hazardous Material Incident Report System

Other Ascertainable Records

RCRA NonGen / NLR....... RCRA - Non Generators / No Longer Regulated

CONSENT...... Superfund (CERCLA) Consent Decrees

TRIS...... Toxic Chemical Release Inventory System

TSCA..... Toxic Substances Control Act

FTTS_____FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide

Act)/TSCA (Toxic Substances Control Act)

HIST FTTS...... FIFRA/TSCA Tracking System Administrative Case Listing

SSTS..... Section 7 Tracking Systems

ICIS..... Integrated Compliance Information System

FINDS______Facility Index System/Facility Registry System RAATS______RCRA Administrative Action Tracking System

RMP...... Risk Management Plans CA BOND EXP. PLAN..... Bond Expenditure Plan

UIC Listing

NPDES Permits Listing

HIST CORTESE..... Hazardous Waste & Substance Site List

CUPA Listings..... CUPA Resources List

Notify 65...... Proposition 65 Records DRYCLEANERS...... Cleaner Facilities

WIP..... Well Investigation Program Case List

ENF...... Enforcement Action Listing HAZNET..... Facility and Manifest Data EMI..... Emissions Inventory Data INDIAN RESERV..... Indian Reservations

INDIAN RESERV...... Indian Reservations SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

LEAD SMELTERS..... Lead Smelter Sites

HWP..... EnviroStor Permitted Facilities Listing

HWT...... Registered Hazardous Waste Transporter Database

PROC..... Certified Processors Database

Financial Assurance Information Listing

EPA WATCH LIST..... EPA WATCH LIST

US FIN ASSUR_____ Financial Assurance Information

WDS...... Waste Discharge System

MWMP...... Medical Waste Management Program Listing PCB TRANSFORMER...... PCB Transformer Registration Database

COAL ASH EPA...... Coal Combustion Residues Surface Impoundments List US AIRS...... Aerometric Information Retrieval System Facility Subsystem

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP...... EDR Proprietary Manufactured Gas Plants
EDR US Hist Auto Stat..... EDR Exclusive Historic Gas Stations
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

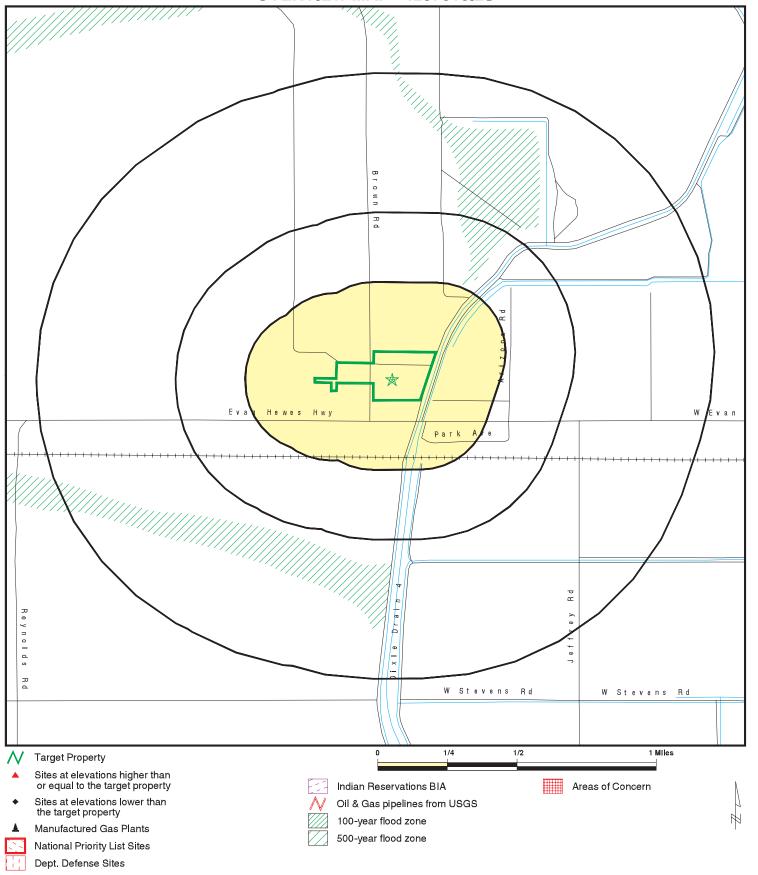
SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.								
Site Name	Database(s)							
U.S. GYPSUM CO.	SLIC							

OVERVIEW MAP - 4257818.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Dixieland East Solar Project

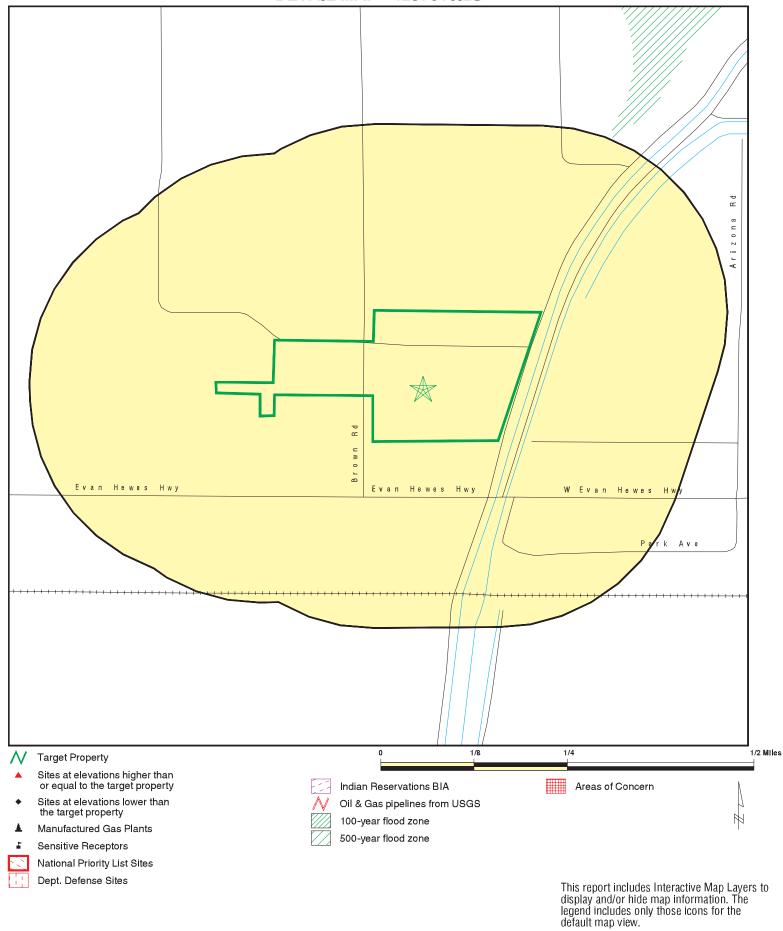
ADDRESS: Brown Road and Evan Hewes Highway

Thermal CA 92274 LAT/LONG: 32.7932 / 115.7731 GS Lyon Consultants

CLIENT: GS Lyon Cor CONTACT: Randy Lyon INQUIRY #: 4257818.2s

DATE: April 08, 2015 1:52 pm

DETAIL MAP - 4257818.2S



SITE NAME: Dixieland East Solar Project CLIENT: GS Lyon Consultants
ADDRESS: Brown Road and Evan Hewes Highway
Thermal CA 92274
CLIENT: GS Lyon Consultants
CONTACT: Randy Lyon
INQUIRY #: 4257818.2s

LAT/LONG: 32.7932 / 115.7731 INQUIRY #: 425/818.2s DATE: April 08, 2015 1:53 pm

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENT	TAL RECORDS							
Federal NPL site list								
NPL Proposed NPL NPL LIENS	1.000 1.000 0.001		0 0 0	0 0 NR	0 0 NR	0 0 NR	NR NR NR	0 0 0
Federal Delisted NPL site	e list							
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS FEDERAL FACILITY	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
Federal CERCLIS NFRAI	P site List							
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRAC	TS facilities li	st						
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-COR	RACTS TSD f	acilities list						
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generator	s list							
RCRA-LQG RCRA-SQG RCRA-CESQG	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
Federal institutional con engineering controls reg								
US ENG CONTROLS US INST CONTROL LUCIS	0.500 0.500 0.500		0 0 0	0 0 0	0 0 0	NR NR NR	NR NR NR	0 0 0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equiva	lent NPL							
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equiva	lent CERCLIS	3						
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill a solid waste disposal site								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking s	storage tank l	ists						
LUST	0.500		0	0	0	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SLIC INDIAN LUST	0.500 0.500		0	0 0	0 0	NR NR	NR NR	0 0
State and tribal registered storage tank lists								
UST AST INDIAN UST FEMA UST	0.250 0.250 0.250 0.250		0 0 0 0	0 0 0 0	NR NR NR NR	NR NR NR NR	NR NR NR NR	0 0 0 0
State and tribal voluntary	cleanup site	es						
INDIAN VCP VCP	0.500 0.500		0 0	0 0	0 0	NR NR	NR NR	0 0
ADDITIONAL ENVIRONMEN	TAL RECORDS	<u> </u>						
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9 ODI SWRCY HAULERS INDIAN ODI WMUDS/SWAT	0.500 0.500 0.500 0.001 0.500 0.500		0 0 0 0 0	0 0 0 NR 0 0	0 0 0 NR 0 0	NR NR NR NR NR	NR NR NR NR NR	0 0 0 0 0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL HIST Cal-Sites SCH Toxic Pits CDL US HIST CDL	0.001 1.000 0.250 1.000 0.001 0.001		0 0 0 0 0	NR 0 0 0 NR NR	NR 0 NR 0 NR NR	NR 0 NR 0 NR NR	NR NR NR NR NR	0 0 0 0 0
Local Lists of Registered	Storage Tan	ks						
CA FID UST HIST UST SWEEPS UST	0.250 0.250 0.250		0 0 0	0 0 0	NR NR NR	NR NR NR	NR NR NR	0 0 0
Local Land Records								
LIENS 2 LIENS DEED	0.001 0.001 0.500		0 0 0	NR NR 0	NR NR 0	NR NR NR	NR NR NR	0 0 0
Records of Emergency Release Reports								
HMIRS CHMIRS LDS	0.001 0.001 0.001		0 0 0	NR NR NR	NR NR NR	NR NR NR	NR NR NR	0 0 0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MCS SPILLS 90	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
Other Ascertainable Re	ecords							
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000 1.000		0	0	0	0	NR	0
ROD UMTRA	0.500		0 0	0 0	0 0	0 NR	NR NR	0 0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
TSCA	0.001		Ö	NR	NR	NR	NR	ŏ
FTTS	0.001		Ō	NR	NR	NR	NR	Ö
HIST FTTS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
FINDS RAATS	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
RMP	0.001		0	NR	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
UIC	0.001		Ö	NR	NR	NR	NR	Ö
NPDES	0.001		0	NR	NR	NR	NR	0
Cortese	0.500		0	0	0	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
WIP ENF	0.250 0.001		0 0	0 NR	NR NR	NR NR	NR NR	0 0
HAZNET	0.001		0	NR NR	NR NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		Ō	Ö	Ö	NR	NR	Ö
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
US FIN ASSUR WDS	0.001 0.001		0 0	NR NR	NR NR	NR NR	NR NR	0 0
MWMP	0.250		0	0	NR NR	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		Ő	0	0	NR	NR	0
US AIRS	0.001		Ō	NR	NR	NR	NR	Ō
PRP	0.001		0	NR	NR	NR	NR	0

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted	
2020 COR ACTION COAL ASH DOE	0.250 0.001		0 0	0 NR	NR NR	NR NR	NR NR	0 0	
EDR HIGH RISK HISTORICAL RECORDS									
EDR Exclusive Records									
EDR MGP EDR US Hist Auto Stat EDR US Hist Cleaners	1.000 0.250 0.250		0 0 0	0 0 0	0 NR NR	0 NR NR	NR NR NR	0 0 0	
- Totals		0	0	0	0	0	0	0	

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID		MAP FINDINGS		
Direction	'			
Distance				EDR ID Number
Elevation	Site		Database(s)	EPA ID Number

NO SITES FOUND

Count: 1 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
PLASTER	S105756785	5 U.S. GYPSUM CO.	SOUTH SIDE OF EVAN HEWES HIGHW	92243	SLIC

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014 Source: EPA
Date Data Arrived at EDR: 01/08/2015 Telephone: N/A

Number of Days to Update: 32 Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources

EPA's Environmental Photographic Interpretation Center (EPIC)

Telephone: 202-564-7333

EPA Region 1 EPA Region 6

Telephone 617-918-1143 Telephone: 214-655-6659

EPA Region 3 EPA Region 7

Telephone 215-814-5418 Telephone: 913-551-7247

EPA Region 4 EPA Region 8

Telephone 404-562-8033 Telephone: 303-312-6774

EPA Region 5 EPA Region 9

Telephone 312-886-6686 Telephone: 415-947-4246

EPA Region 10

Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014 Source: EPA
Date Data Arrived at EDR: 01/08/2015 Telephone: N/A

Number of Days to Update: 32 Next Scheduled EDR Contact: 04/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991 Date Data Arrived at EDR: 02/02/1994 Date Made Active in Reports: 03/30/1994

Number of Days to Update: 56

Source: EPA Telephone: 202-564-4267 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 02/09/2015

Number of Days to Update: 32

Source: EPA Telephone: N/A

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Last EDR Contact: 01/08/2015

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 11/11/2013 Date Made Active in Reports: 02/13/2014

Number of Days to Update: 94

Source: EPA

Telephone: 703-412-9810 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014 Date Data Arrived at EDR: 10/07/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 13

Source: Environmental Protection Agency

Telephone: 703-603-8704 Last EDR Contact: 01/09/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 11/11/2013 Date Made Active in Reports: 02/13/2014

Number of Days to Update: 94

Source: EPA Telephone: 703-412-9810

Last EDR Contact: 04/02/2015 Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: EPA

Telephone: 800-424-9346 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014 Date Data Arrived at EDR: 09/19/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014 Date Data Arrived at EDR: 09/19/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 703-603-0695 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014 Date Data Arrived at EDR: 12/12/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 48

Source: Department of the Navy Telephone: 843-820-7326 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/29/2014 Date Data Arrived at EDR: 09/30/2014 Date Made Active in Reports: 11/06/2014

Number of Days to Update: 37

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity.

These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/16/2015 Date Data Arrived at EDR: 02/17/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 14

Source: Department of Resources Recycling and Recovery

Telephone: 916-341-6320 Last EDR Contact: 02/17/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001 Date Data Arrived at EDR: 02/28/2001 Date Made Active in Reports: 03/29/2001

Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)

Telephone: 707-570-3769 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6710 Last EDR Contact: 09/06/2011

Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008 Date Data Arrived at EDR: 07/22/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-4834 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: see region list Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-622-2433 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012 Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003 Date Data Arrived at EDR: 05/19/2003 Date Made Active in Reports: 06/02/2003

Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-542-4786 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003 Date Data Arrived at EDR: 09/10/2003 Date Made Active in Reports: 10/07/2003

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)

Telephone: 530-542-5572 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005 Date Data Arrived at EDR: 06/07/2005 Date Made Active in Reports: 06/29/2005

Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)

Telephone: 760-241-7365 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004 Date Data Arrived at EDR: 02/26/2004 Date Made Active in Reports: 03/24/2004

Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)

Telephone: 760-776-8943 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001 Date Data Arrived at EDR: 04/23/2001 Date Made Active in Reports: 05/21/2001

Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-637-5595 Last EDR Contact: 09/26/2011

Next Scheduled EDR Contact: 01/09/2012 Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005 Date Data Arrived at EDR: 02/15/2005 Date Made Active in Reports: 03/28/2005

Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)

Telephone: 909-782-4496 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Varies

SLIC: Statewide SLIC Cases

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003 Date Data Arrived at EDR: 04/07/2003 Date Made Active in Reports: 04/25/2003

Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)

Telephone: 707-576-2220 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004 Date Data Arrived at EDR: 10/20/2004 Date Made Active in Reports: 11/19/2004

Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)

Telephone: 510-286-0457 Last EDR Contact: 09/19/2011

Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006 Date Data Arrived at EDR: 05/18/2006 Date Made Active in Reports: 06/15/2006

Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)

Telephone: 805-549-3147 Last EDR Contact: 07/18/2011

Next Scheduled EDR Contact: 10/31/2011 Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004 Date Data Arrived at EDR: 11/18/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)

Telephone: 213-576-6600 Last EDR Contact: 07/01/2011

Next Scheduled EDR Contact: 10/17/2011 Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005 Date Data Arrived at EDR: 04/05/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)

Telephone: 916-464-3291 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005 Date Data Arrived at EDR: 05/25/2005 Date Made Active in Reports: 06/16/2005

Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch

Telephone: 619-241-6583 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004 Date Data Arrived at EDR: 09/07/2004 Date Made Active in Reports: 10/12/2004

Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region

Telephone: 530-542-5574 Last EDR Contact: 08/15/2011

Next Scheduled EDR Contact: 11/28/2011 Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004 Date Data Arrived at EDR: 11/29/2004 Date Made Active in Reports: 01/04/2005

Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region

Telephone: 760-346-7491 Last EDR Contact: 08/01/2011

Next Scheduled EDR Contact: 11/14/2011 Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008 Date Data Arrived at EDR: 04/03/2008 Date Made Active in Reports: 04/14/2008

Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)

Telephone: 951-782-3298 Last EDR Contact: 09/12/2011

Next Scheduled EDR Contact: 12/26/2011 Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality

from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007 Date Data Arrived at EDR: 09/11/2007 Date Made Active in Reports: 09/28/2007

Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)

Telephone: 858-467-2980 Last EDR Contact: 08/08/2011

Next Scheduled EDR Contact: 11/21/2011 Data Release Frequency: Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 29

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 42

Source: EPA Region 8 Telephone: 303-312-6271 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 65

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/10/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 31

Source: EPA Region 6 Telephone: 214-665-6597 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 10

Source: EPA Region 4 Telephone: 404-562-8677 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013

Number of Days to Update: 184

Source: EPA Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 32

Source: EPA, Region 5 Telephone: 312-886-7439 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 02/09/2015

Number of Days to Update: 32

Source: Environmental Protection Agency

Telephone: 415-972-3372 Last EDR Contact: 01/08/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: SWRCB Telephone: 916-341-5851 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009 Date Data Arrived at EDR: 09/10/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 21

Source: California Environmental Protection Agency

Telephone: 916-327-5092 Last EDR Contact: 07/13/2015

Next Scheduled EDR Contact: 04/13/2015 Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/05/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 36

Source: EPA Region 5 Telephone: 312-886-6136 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 28

Source: EPA Region 6 Telephone: 214-665-7591 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 65

Source: EPA Region 7 Telephone: 913-551-7003 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 42

Source: EPA Region 8 Telephone: 303-312-6137 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013 Date Data Arrived at EDR: 05/01/2013 Date Made Active in Reports: 01/27/2014

Number of Days to Update: 271

Source: EPA, Region 1 Telephone: 617-918-1313 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 29

Source: EPA Region 10 Telephone: 206-553-2857 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 28

Source: EPA Region 9 Telephone: 415-972-3368 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/13/2015

Number of Days to Update: 10

Source: EPA Region 4 Telephone: 404-562-9424 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Semi-Annually

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010 Date Data Arrived at EDR: 02/16/2010 Date Made Active in Reports: 04/12/2010

Number of Days to Update: 55

Source: FEMA

Telephone: 202-646-5797 Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008 Date Data Arrived at EDR: 04/22/2008 Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7 Telephone: 913-551-7365 Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009 Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014 Date Data Arrived at EDR: 10/01/2014 Date Made Active in Reports: 11/06/2014

Number of Days to Update: 36

Source: EPA, Region 1 Telephone: 617-918-1102 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2014 Date Data Arrived at EDR: 12/22/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 38

Source: Environmental Protection Agency Telephone: 202-566-2777

Last EDR Contact: 03/24/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985 Date Data Arrived at EDR: 08/09/2004 Date Made Active in Reports: 09/17/2004

Number of Days to Update: 39

Source: Environmental Protection Agency

Telephone: 800-424-9346 Last EDR Contact: 06/09/2004 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009 Date Data Arrived at EDR: 05/07/2009 Date Made Active in Reports: 09/21/2009

Number of Days to Update: 137

Source: EPA, Region 9 Telephone: 415-947-4219 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: Department of Conservation

Telephone: 916-323-3836 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing A listing of registered waste tire haulers.

Date of Government Version: 12/01/2014 Date Data Arrived at EDR: 12/01/2014 Date Made Active in Reports: 01/23/2015

Number of Days to Update: 53

Source: Integrated Waste Management Board

Telephone: 916-341-6422 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998 Date Data Arrived at EDR: 12/03/2007 Date Made Active in Reports: 01/24/2008

Number of Days to Update: 52

Source: Environmental Protection Agency

Telephone: 703-308-8245 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

WMUDS/SWAT: Waste Management Unit Database

Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000 Date Data Arrived at EDR: 04/10/2000 Date Made Active in Reports: 05/10/2000

Number of Days to Update: 30

Source: State Water Resources Control Board

Telephone: 916-227-4448 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 03/03/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Quarterly

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005 Date Data Arrived at EDR: 08/03/2006 Date Made Active in Reports: 08/24/2006

Number of Days to Update: 21

Source: Department of Toxic Substance Control

Telephone: 916-323-3400 Last EDR Contact: 02/23/2009

Next Scheduled EDR Contact: 05/25/2009 Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/12/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995 Date Data Arrived at EDR: 08/30/1995 Date Made Active in Reports: 09/26/1995

Number of Days to Update: 27

Source: State Water Resources Control Board

Telephone: 916-227-4364 Last EDR Contact: 01/26/2009

Next Scheduled EDR Contact: 04/27/2009 Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Department of Toxic Substances Control

Telephone: 916-255-6504 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 04/27/2015

Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Drug Enforcement Administration

Telephone: 202-307-1000 Last EDR Contact: 03/03/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994 Date Data Arrived at EDR: 09/05/1995 Date Made Active in Reports: 09/29/1995

Number of Days to Update: 24

Source: California Environmental Protection Agency

Telephone: 916-341-5851 Last EDR Contact: 12/28/1998 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/23/2009 Date Data Arrived at EDR: 09/23/2009 Date Made Active in Reports: 10/01/2009

Number of Days to Update: 8

Source: Department of Public Health

Telephone: 707-463-4466 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990 Date Data Arrived at EDR: 01/25/1991 Date Made Active in Reports: 02/12/1991

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-341-5851 Last EDR Contact: 07/26/2001 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994 Date Data Arrived at EDR: 07/07/2005 Date Made Active in Reports: 08/11/2005

Number of Days to Update: 35

Source: State Water Resources Control Board

Telephone: N/A

Last EDR Contact: 06/03/2005 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014 Date Data Arrived at EDR: 03/18/2014 Date Made Active in Reports: 04/24/2014

Number of Days to Update: 37

Source: Environmental Protection Agency

Telephone: 202-564-6023 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: DTSC and SWRCB Telephone: 916-323-3400 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 12/30/2014 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 69

Source: U.S. Department of Transportation

Telephone: 202-366-4555 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Office of Emergency Services Telephone: 916-845-8400

Last EDR Contact: 01/28/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Qualilty Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: State Water Resources Control Board

Telephone: 866-480-1028 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012 Date Data Arrived at EDR: 01/03/2013 Date Made Active in Reports: 02/22/2013

Number of Days to Update: 50

Source: FirstSearch Telephone: N/A

Last EDR Contact: 01/03/2013 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: (415) 495-8895 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012 Date Data Arrived at EDR: 08/07/2012 Date Made Active in Reports: 09/18/2012

Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety

Telephone: 202-366-4595 Last EDR Contact: 02/03/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 11/10/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 62

Source: USGS

Telephone: 888-275-8747 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 09/18/2014

Number of Days to Update: 8

Source: U.S. Army Corps of Engineers

Telephone: 202-528-4285 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/22/2015

Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 24

Source: Department of Justice, Consent Decree Library

Telephone: Varies

Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013 Date Data Arrived at EDR: 12/12/2013 Date Made Active in Reports: 02/24/2014

Number of Days to Update: 74

Source: EPA

Telephone: 703-416-0223 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010 Date Data Arrived at EDR: 10/07/2011 Date Made Active in Reports: 03/01/2012

Number of Days to Update: 146

Source: Department of Energy Telephone: 505-845-0011 Last EDR Contact: 02/27/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014 Date Data Arrived at EDR: 12/31/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration

Telephone: 303-231-5959 Last EDR Contact: 03/06/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/31/2013 Date Made Active in Reports: 09/13/2013

Number of Days to Update: 44

Source: EPA

Telephone: 202-566-0250 Last EDR Contact: 01/29/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 01/15/2015 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 14

Source: EPA

Telephone: 202-260-5521 Last EDR Contact: 03/27/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Every 4 Years

FTTS: FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances

Telephone: 202-566-1667 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act) A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009 Date Data Arrived at EDR: 04/16/2009 Date Made Active in Reports: 05/11/2009

Number of Days to Update: 25

Source: EPA Telephone: 202-566-1667 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2007

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006 Date Data Arrived at EDR: 03/01/2007 Date Made Active in Reports: 04/10/2007

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-2501 Last EDR Contact: 12/17/2008

Next Scheduled EDR Contact: 03/17/2008 Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009 Date Data Arrived at EDR: 12/10/2010 Date Made Active in Reports: 02/25/2011

Number of Days to Update: 77

Source: EPA

Telephone: 202-564-4203 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015 Date Data Arrived at EDR: 02/06/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 31

Source: Environmental Protection Agency

Telephone: 202-564-5088 Last EDR Contact: 01/09/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 10/15/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 33

Source: EPA

Telephone: 202-566-0500 Last EDR Contact: 01/16/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 01/08/2015 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 21

Source: Nuclear Regulatory Commission

Telephone: 301-415-7169 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 02/27/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 26

Source: Environmental Protection Agency

Telephone: 202-343-9775 Last EDR Contact: 02/27/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015 Date Data Arrived at EDR: 02/27/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 26

Source: EPA

Telephone: (415) 947-8000 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995 Date Data Arrived at EDR: 07/03/1995 Date Made Active in Reports: 08/07/1995

Number of Days to Update: 35

Source: EPA

Telephone: 202-564-4104 Last EDR Contact: 06/02/2008

Next Scheduled EDR Contact: 09/01/2008

Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: 202-564-8600 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 02/26/2013 Date Made Active in Reports: 04/19/2013

Number of Days to Update: 52

Source: EPA/NTIS Telephone: 800-424-9346 Last EDR Contact: 02/24/2015

Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Biennially

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989 Date Data Arrived at EDR: 07/27/1994 Date Made Active in Reports: 08/02/1994

Number of Days to Update: 6

Source: Department of Health Services

Telephone: 916-255-2118 Last EDR Contact: 05/31/1994 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 11/19/2014 Date Data Arrived at EDR: 12/15/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 45

Source: Deaprtment of Conservation Telephone: 916-445-2408

Last EDR Contact: 03/20/2015 Next Scheduled EDR Contact: 06/29/2015

Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 03/12/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: State Water Resources Control Board

Telephone: 916-445-9379 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 12/29/2014 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 36

Source: CAL EPA/Office of Emergency Information

Telephone: 916-323-3400 Last EDR Contact: 03/31/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001 Date Data Arrived at EDR: 01/22/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 76

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 01/22/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 10/21/1993 Date Data Arrived at EDR: 11/01/1993 Date Made Active in Reports: 11/19/1993

Number of Days to Update: 18

Source: State Water Resources Control Board

Telephone: 916-445-3846 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015

Data Release Frequency: No Update Planned

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/18/2015 Date Data Arrived at EDR: 02/20/2015 Date Made Active in Reports: 03/12/2015

Number of Days to Update: 20

Source: Department of Toxic Substance Control

Telephone: 916-327-4498 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Annually

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009 Date Data Arrived at EDR: 07/21/2009 Date Made Active in Reports: 08/03/2009

Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board

Telephone: 213-576-6726 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015

Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: State Water Resoruces Control Board

Telephone: 916-445-9379 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 10/15/2014 Date Made Active in Reports: 11/19/2014

Number of Days to Update: 35

Source: California Environmental Protection Agency

Telephone: 916-255-1136 Last EDR Contact: 01/16/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2012 Date Data Arrived at EDR: 03/25/2014 Date Made Active in Reports: 04/28/2014

Number of Days to Update: 34

Source: California Air Resources Board

Telephone: 916-322-2990 Last EDR Contact: 03/27/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 12/08/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 34

Source: USGS

Telephone: 202-208-3710 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011 Date Data Arrived at EDR: 03/09/2011 Date Made Active in Reports: 05/02/2011

Number of Days to Update: 54

Source: Environmental Protection Agency

Telephone: 615-532-8599 Last EDR Contact: 02/18/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 02/06/2006 Date Made Active in Reports: 01/11/2007

Number of Days to Update: 339

Source: U.S. Geological Survey Telephone: 888-275-8747 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015

Data Release Frequency: N/A

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007 Date Data Arrived at EDR: 06/20/2007 Date Made Active in Reports: 06/29/2007

Number of Days to Update: 9

Source: State Water Resources Control Board

Telephone: 916-341-5227 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013 Date Data Arrived at EDR: 10/17/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 3

Source: EPA

Telephone: 202-564-6023 Last EDR Contact: 02/13/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001 Date Data Arrived at EDR: 10/27/2010

Date Made Active in Reports: 12/02/2010 Number of Days to Update: 36

Source: American Journal of Public Health

Telephone: 703-305-6451 Last EDR Contact: 12/02/2009 Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014 Date Data Arrived at EDR: 11/26/2014 Date Made Active in Reports: 01/29/2015

Number of Days to Update: 64

Source: Environmental Protection Agency

Telephone: 703-603-8787 Last EDR Contact: 01/05/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Varies

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/09/2015

Number of Days to Update: 6

Source: Environmental Protection Agency

Telephone: 703-308-4044 Last EDR Contact: 02/13/2015

Next Scheduled EDR Contact: 05/25/2015

Data Release Frequency: Varies

PROC: Certified Processors Database A listing of certified processors.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 6

Source: Department of Conservation Telephone: 916-323-3836 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013 Date Data Arrived at EDR: 03/21/2014 Date Made Active in Reports: 06/17/2014

Number of Days to Update: 88

Source: Environmental Protection Agency

Telephone: 617-520-3000 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 02/02/2015 Date Data Arrived at EDR: 02/06/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 25

Source: Department of Toxic Substances Control

Telephone: 916-255-3628 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2015 Date Data Arrived at EDR: 02/20/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 11

Source: California Integrated Waste Management Board

Telephone: 916-341-6066 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014 Date Data Arrived at EDR: 09/10/2014 Date Made Active in Reports: 10/20/2014

Number of Days to Update: 40

Source: Environmental Protection Agency

Telephone: N/A

Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011 Date Data Arrived at EDR: 10/19/2011 Date Made Active in Reports: 01/10/2012

Number of Days to Update: 83

Source: Environmental Protection Agency

Telephone: 202-566-0517 Last EDR Contact: 01/30/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/16/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Department of Public Health Telephone: 916-558-1784 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005 Date Data Arrived at EDR: 08/07/2009 Date Made Active in Reports: 10/22/2009

Number of Days to Update: 76

Source: Department of Energy Telephone: 202-586-8719 Last EDR Contact: 01/15/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Varies

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/12/2015 Date Data Arrived at EDR: 01/13/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 21

Source: Department of Toxic Substances Control

Telephone: 916-440-7145 Last EDR Contact: 01/13/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Quarterly

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: Department of Toxic Substances Control

Telephone: 916-323-3400 Last EDR Contact: 02/24/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Quarterly

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014 Date Data Arrived at EDR: 10/31/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 17

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/16/2014 Date Data Arrived at EDR: 10/31/2014 Date Made Active in Reports: 11/17/2014

Number of Days to Update: 17

Source: EPA

Telephone: 202-564-2496 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Annually

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/25/2015

Number of Days to Update: 15

Source: Environmental Protection Agency

Telephone: 202-566-1917 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A Date Data Arrived at EDR: N/A Date Made Active in Reports: N/A Number of Days to Update: N/A

Source: EDR, Inc. Telephone: N/A Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/21/2015 Date Data Arrived at EDR: 01/28/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 29

Source: Alameda County Environmental Health Services

Telephone: 510-567-6700 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List Cupa Facility List

> Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/24/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 7

Source: Amador County Environmental Health

Telephone: 209-223-6439 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014 Date Data Arrived at EDR: 11/24/2014 Date Made Active in Reports: 01/07/2015

Number of Days to Update: 44

Source: Public Health Department Telephone: 530-538-7149 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 03/03/2015 Date Data Arrived at EDR: 03/05/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 5

Source: Calveras County Environmental Health

Telephone: 209-754-6399 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 06/11/2014 Date Data Arrived at EDR: 06/13/2014 Date Made Active in Reports: 07/07/2014

Number of Days to Update: 24

Source: Health & Human Services Telephone: 530-458-0396 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List

List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 7

Source: Contra Costa Health Services Department

Telephone: 925-646-2286 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List

Cupa Facility list

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: Del Norte County Environmental Health Division

Telephone: 707-465-0426 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 05/18/2015

Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 02/24/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: El Dorado County Environmental Management Department

Telephone: 530-621-6623 Last EDR Contact: 02/02/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 01/16/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 20

Source: Dept. of Community Health Telephone: 559-445-3271 Last EDR Contact: 04/06/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Humboldt County Environmental Health

Telephone: N/A

Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List Cupa facility list.

> Date of Government Version: 02/10/2015 Date Data Arrived at EDR: 02/12/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 19

Source: San Diego Border Field Office

Telephone: 760-339-2777 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List Cupa facility list.

> Date of Government Version: 09/10/2013 Date Data Arrived at EDR: 09/11/2013 Date Made Active in Reports: 10/14/2013

Number of Days to Update: 33

Source: Inyo County Environmental Health Services

Telephone: 760-878-0238 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

> Date of Government Version: 07/22/2014 Date Data Arrived at EDR: 11/12/2014 Date Made Active in Reports: 12/19/2014

Number of Days to Update: 37

Source: Kern County Environment Health Services Department

Telephone: 661-862-8700 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/21/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 12/30/2014

Number of Days to Update: 35

Source: Kings County Department of Public Health

Telephone: 559-584-1411 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/20/2015 Date Data Arrived at EDR: 01/21/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 15

Source: Lake County Environmental Health

Telephone: 707-263-1164 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009 Date Data Arrived at EDR: 03/31/2009 Date Made Active in Reports: 10/23/2009

Number of Days to Update: 206

Source: EPA Region 9 Telephone: 415-972-3178 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 33

Source: Department of Public Works Telephone: 626-458-3517

Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2015 Date Data Arrived at EDR: 01/20/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 16

Source: La County Department of Public Works

Telephone: 818-458-5185 Last EDR Contact: 01/20/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009 Date Data Arrived at EDR: 03/10/2009 Date Made Active in Reports: 04/08/2009

Number of Days to Update: 29

Source: Engineering & Construction Division

Telephone: 213-473-7869 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 40

Source: Community Health Services Telephone: 323-890-7806 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 10/20/2014 Date Data Arrived at EDR: 10/22/2014 Date Made Active in Reports: 12/15/2014

Number of Days to Update: 54

Source: City of El Segundo Fire Department

Telephone: 310-524-2236 Last EDR Contact: 03/06/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 01/29/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 13

Source: City of Long Beach Fire Department

Telephone: 562-570-2563 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/08/2015 Date Data Arrived at EDR: 01/15/2015 Date Made Active in Reports: 01/27/2015

Number of Days to Update: 12

Source: City of Torrance Fire Department

Telephone: 310-618-2973 Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/20/2015 Date Data Arrived at EDR: 03/24/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 7

Source: Madera County Environmental Health

Telephone: 559-675-7823 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 10/08/2014 Date Data Arrived at EDR: 10/22/2014 Date Made Active in Reports: 12/15/2014

Number of Days to Update: 54

Source: Public Works Department Waste Management

Telephone: 415-499-6647 Last EDR Contact: 04/06/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List CUPA facility list.

> Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: Merced County Environmental Health

Telephone: 209-381-1094 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List

CUPA Facility List

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 03/06/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 4

Source: Mono County Health Department

Telephone: 760-932-5580 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing

CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/19/2015 Date Data Arrived at EDR: 03/20/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 11

Telephone: 831-796-1297

Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Source: Monterey County Health Department

Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination

A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011 Date Data Arrived at EDR: 12/06/2011 Date Made Active in Reports: 02/07/2012

Number of Days to Update: 63

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008 Date Data Arrived at EDR: 01/16/2008 Date Made Active in Reports: 02/08/2008

Number of Days to Update: 23

Source: Napa County Department of Environmental Management

Telephone: 707-253-4269 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List CUPA facility list.

> Date of Government Version: 02/12/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Community Development Agency

Telephone: 530-265-1467 Last EDR Contact: 02/06/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/03/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 18

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2015 Date Data Arrived at EDR: 02/13/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 13

Source: Health Care Agency Telephone: 714-834-3446 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/10/2015 Date Data Arrived at EDR: 03/12/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 6

Source: Placer County Health and Human Services

Telephone: 530-745-2363 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites

Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 33

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Quarterly

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 01/28/2015 Date Data Arrived at EDR: 01/29/2015 Date Made Active in Reports: 02/26/2015

Number of Days to Update: 28

Source: Department of Environmental Health

Telephone: 951-358-5055 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/03/2014 Date Data Arrived at EDR: 01/07/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 27

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 01/07/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/03/2014 Date Data Arrived at EDR: 01/09/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 25

Source: Sacramento County Environmental Management

Telephone: 916-875-8406 Last EDR Contact: 01/05/2015

Next Scheduled EDR Contact: 04/20/2015 Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/02/2015 Date Data Arrived at EDR: 03/03/2015 Date Made Active in Reports: 03/10/2015

Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division

Telephone: 909-387-3041 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013 Date Data Arrived at EDR: 09/24/2013 Date Made Active in Reports: 10/17/2013

Number of Days to Update: 23

Source: Hazardous Materials Management Division

Telephone: 619-338-2268 Last EDR Contact: 03/10/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2014 Date Data Arrived at EDR: 11/21/2014 Date Made Active in Reports: 12/29/2014

Number of Days to Update: 38

Source: Department of Health Services

Telephone: 619-338-2209 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010 Date Data Arrived at EDR: 06/15/2010 Date Made Active in Reports: 07/09/2010

Number of Days to Update: 24

Source: San Diego County Department of Environmental Health

Telephone: 619-338-2371 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008 Date Data Arrived at EDR: 09/19/2008 Date Made Active in Reports: 09/29/2008

Number of Days to Update: 10

Source: Department Of Public Health San Francisco County

Telephone: 415-252-3920 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010 Date Data Arrived at EDR: 03/10/2011 Date Made Active in Reports: 03/15/2011

Number of Days to Update: 5

Source: Department of Public Health

Telephone: 415-252-3920 Last EDR Contact: 02/09/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST

A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/24/2015 Date Data Arrived at EDR: 03/25/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 6

Telephone: N/A

Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Semi-Annually

Source: Environmental Health Department

SAN LUIS OBISPO COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 7

Source: San Luis Obispo County Public Health Department

Telephone: 805-781-5596 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory

List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 01/09/2015 Date Data Arrived at EDR: 01/12/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 22

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/16/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Annually

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/16/2015 Date Data Arrived at EDR: 03/17/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 7

Source: San Mateo County Environmental Health Services Division

Telephone: 650-363-1921 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing

CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011 Date Data Arrived at EDR: 09/09/2011 Date Made Active in Reports: 10/07/2011

Number of Days to Update: 28

Source: Santa Barbara County Public Health Department

Telephone: 805-686-8167 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List

Cupa facility list

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/25/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 6

Source: Department of Environmental Health

Telephone: 408-918-1973 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report

A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005 Date Data Arrived at EDR: 03/30/2005 Date Made Active in Reports: 04/21/2005

Number of Days to Update: 22

Source: Santa Clara Valley Water District

Telephone: 408-265-2600 Last EDR Contact: 03/23/2009

Next Scheduled EDR Contact: 06/22/2009 Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014 Date Data Arrived at EDR: 03/05/2014 Date Made Active in Reports: 03/18/2014

Number of Days to Update: 13

Source: Department of Environmental Health

Telephone: 408-918-3417 Last EDR Contact: 02/26/2015

Next Scheduled EDR Contact: 06/15/2015 Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/23/2015 Date Data Arrived at EDR: 02/24/2015 Date Made Active in Reports: 03/04/2015

Number of Days to Update: 8

Source: City of San Jose Fire Department

Telephone: 408-535-7694 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 05/25/2015 Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 11/24/2014 Date Data Arrived at EDR: 11/25/2014 Date Made Active in Reports: 12/31/2014

Number of Days to Update: 36

Source: Santa Cruz County Environmental Health

Telephone: 831-464-2761 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 03/11/2015 Date Data Arrived at EDR: 03/13/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 11

Source: Shasta County Department of Resource Management

Telephone: 530-225-5789 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015

Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks

A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/19/2015 Date Made Active in Reports: 03/24/2015

Number of Days to Update: 5

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 03/13/2015 Date Data Arrived at EDR: 03/20/2015 Date Made Active in Reports: 03/31/2015

Number of Days to Update: 11

Source: Solano County Department of Environmental Management

Telephone: 707-784-6770 Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List

Cupa Facility list

Date of Government Version: 01/06/2015 Date Data Arrived at EDR: 01/09/2015 Date Made Active in Reports: 02/05/2015

Number of Days to Update: 27

Source: County of Sonoma Fire & Emergency Services Department

Telephone: 707-565-1174 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015

Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/02/2015 Date Data Arrived at EDR: 01/06/2015 Date Made Active in Reports: 02/03/2015

Number of Days to Update: 28

Source: Department of Health Services

Telephone: 707-565-6565 Last EDR Contact: 03/30/2015

Next Scheduled EDR Contact: 07/13/2015 Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 03/09/2015 Date Data Arrived at EDR: 03/10/2015 Date Made Active in Reports: 03/18/2015

Number of Days to Update: 8

Source: Sutter County Department of Agriculture

Telephone: 530-822-7500 Last EDR Contact: 03/09/2015

Next Scheduled EDR Contact: 06/22/2015 Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List Cupa facility list

> Date of Government Version: 01/30/2015 Date Data Arrived at EDR: 02/03/2015

> Date Made Active in Reports: 02/27/2015 Number of Days to Update: 24

Source: Divison of Environmental Health

Telephone: 209-533-5633 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015

Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 01/27/2015 Date Data Arrived at EDR: 02/19/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 12

Source: Ventura County Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011 Date Data Arrived at EDR: 12/01/2011 Date Made Active in Reports: 01/19/2012

Number of Days to Update: 49

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 04/02/2015

Next Scheduled EDR Contact: 07/20/2015 Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008 Date Data Arrived at EDR: 06/24/2008 Date Made Active in Reports: 07/31/2008

Number of Days to Update: 37

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 06/01/2015 Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/29/2014 Date Data Arrived at EDR: 01/30/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 32

Source: Ventura County Resource Management Agency

Telephone: 805-654-2813 Last EDR Contact: 01/26/2015

Next Scheduled EDR Contact: 05/11/2015 Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2015 Date Data Arrived at EDR: 03/18/2015 Date Made Active in Reports: 03/26/2015

Number of Days to Update: 8

Source: Environmental Health Division

Telephone: 805-654-2813 Last EDR Contact: 03/18/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 12/18/2014 Date Data Arrived at EDR: 12/23/2014 Date Made Active in Reports: 01/27/2015

Number of Days to Update: 35

Source: Yolo County Department of Health

Telephone: 530-666-8646 Last EDR Contact: 03/23/2015

Next Scheduled EDR Contact: 07/06/2015 Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 02/17/2015 Date Data Arrived at EDR: 02/19/2015 Date Made Active in Reports: 03/03/2015

Number of Days to Update: 12

Source: Yuba County Environmental Health Department

Telephone: 530-749-7523 Last EDR Contact: 02/16/2015

Next Scheduled EDR Contact: 05/18/2015

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013 Date Data Arrived at EDR: 08/19/2013 Date Made Active in Reports: 10/03/2013

Number of Days to Update: 45

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375 Last EDR Contact: 11/17/2014

Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011 Date Data Arrived at EDR: 07/19/2012 Date Made Active in Reports: 08/28/2012

Number of Days to Update: 40

Source: Department of Environmental Protection

Telephone: N/A

Last EDR Contact: 01/12/2015

Next Scheduled EDR Contact: 04/27/2015 Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD

facility.

Date of Government Version: 01/01/2015 Date Data Arrived at EDR: 02/04/2015 Date Made Active in Reports: 02/27/2015

Number of Days to Update: 23

Source: Department of Environmental Conservation

Telephone: 518-402-8651 Last EDR Contact: 02/04/2015

Next Scheduled EDR Contact: 05/18/2015 Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 07/21/2014 Date Made Active in Reports: 08/25/2014

Number of Days to Update: 35

Source: Department of Environmental Protection

Telephone: 717-783-8990 Last EDR Contact: 01/19/2015

Next Scheduled EDR Contact: 05/04/2015 Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013 Date Data Arrived at EDR: 07/15/2014 Date Made Active in Reports: 08/13/2014

Number of Days to Update: 29

Source: Department of Environmental Management

Telephone: 401-222-2797 Last EDR Contact: 02/23/2015

Next Scheduled EDR Contact: 06/08/2015 Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014 Date Data Arrived at EDR: 03/19/2015 Date Made Active in Reports: 04/07/2015

Number of Days to Update: 19

Source: Department of Natural Resources

Telephone: N/A

Last EDR Contact: 03/13/2015

Next Scheduled EDR Contact: 06/29/2015 Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services,

a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary

and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are

comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities Source: Department of Social Services

Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK®-PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

DIXIELAND EAST SOLAR PROJECT BROWN ROAD AND EVAN HEWES HIGHWAY THERMAL, CA 92274

TARGET PROPERTY COORDINATES

Latitude (North): 32.7932 - 32° 47' 35.52" Longitude (West): 115.7731 - 115° 46' 23.16"

Universal Tranverse Mercator: Zone 11 UTM X (Meters): 614884.7 UTM Y (Meters): 3628837.2

Elevation: 31 ft. below sea level

USGS TOPOGRAPHIC MAP

Target Property Map: 32115-G7 PLASTER CITY, CA

Most Recent Revision: 1979

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

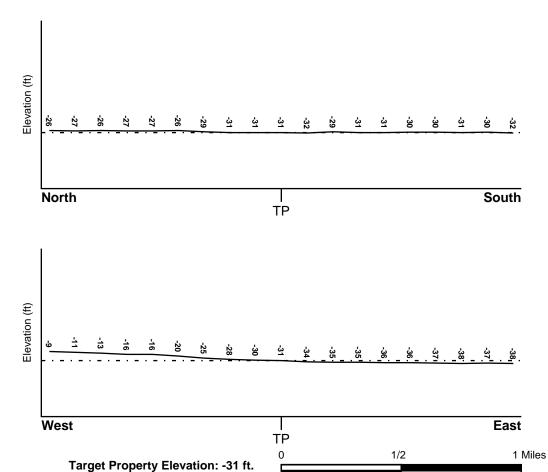
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General East

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

FEMA Flood Electronic Data

Target Property County IMPERIAL, CA

YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property:

06025C - FEMA DFIRM Flood data

Additional Panels in search area:

Not Reported

NATIONAL WETLAND INVENTORY

NWI Electronic

NWI Quad at Target Property

Data Coverage

PLASTER CITY

YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius: 1.25 miles Status: Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

 LOCATION
 GENERAL DIRECTION

 MAP ID
 FROM TP
 GROUNDWATER FLOW

 Not Reported
 The state of the

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

GEOLOGIC AGE IDENTIFICATION

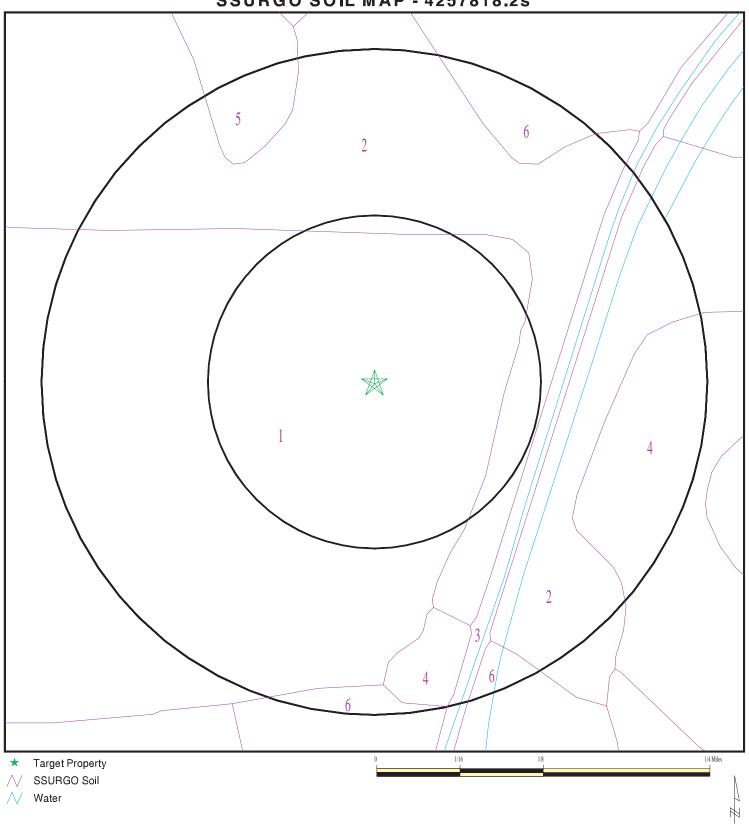
Era: Cenozoic Category: Stratifed Sequence

System: Quaternary Series: Quaternary

Code: Q (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4257818.2s



SITE NAME: Dixieland East Solar Project
ADDRESS: Brown Road and Evan Hewes Highway
Thermal CA 92274
LAT/LONG: 32.7932 / 115.7731

CLIENT: GS Lyon Consultants
CONTACT: Randy Lyon
INQUIRY#: 4257818.2s
DATE: April 08, 2015 1:53 pm

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Meloland

Soil Surface Texture: fine sand

Class C - Slow infiltration rates. Soils with layers impeding downward Hydrologic Group:

> 0 inches

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches Depth to Watertable Min:

Soil Layer Information Saturated **Boundary** Classification hvdraulic conductivity **AASHTO Group** Layer Upper Lower Soil Texture Class **Unified Soil Soil Reaction** micro m/sec (pH) COARSE-GRAINED 1 Max: 141 Max: 8.4 0 inches 11 inches fine sand Granular SOILS, Sands, materials (35 Min: 42 Min: 7.4 pct. or less Sands with fines, Silty Sand. passing No. 200), Silty, or Clayey Gravel and Sand. 2 11 inches 25 inches stratified FINE-GRAINED Max: 141 Max: 8.4 Silt-Clay loamy fine sand Materials (more SOILS, Silts and Min: 4 Min: 7.4 to silt loam than 35 pct. Clays (liquid limit less than passing No. 200), Silty 50%), Lean Clay. FINE-GRAINED Soils. SOILS, Silts and Clays (liquid limit less than 50%), silt. 3 25 inches 70 inches clav Silt-Clav FINE-GRAINED Max: 0.42 Max: 8.4 Materials (more SOILS, Silts and Min: 0.01 Min: 7.4 than 35 pct. Clays (liquid passing No. limit less than 200), Clayey 50%), Lean Clay Soils.

Soil Map ID: 2

Soil Component Name: Meloland

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

> 76 inches

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Depth to Watertable Min:

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Soil Layer Information Saturated **Boundary** Classification hydraulic conductivity **AASHTO Group Unified Soil Soil Reaction** Layer Upper Lower Soil Texture Class micro m/sec (pH) 1 0 inches 11 inches very fine sandy Silt-Clay FINE-GRAINED Max: 14 Max: 8.4 loam Materials (more SOILS, Silts and Min: 4 Min: 7.4 than 35 pct. Clays (liquid passing No. limit less than 200), Silty 50%), Lean Clay. Soils. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt. 2 11 inches 25 inches stratified Silt-Clay FINE-GRAINED Max: 141 Max: 8.4 loamy fine sand Materials (more SOILS, Silts and Min: 4 Min: 7.4 to silt loam than 35 pct. Clays (liquid limit less than passing No. 200), Silty 50%), Lean Clay. Soils. FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt. 3 FINE-GRAINED 25 inches 70 inches clay Silt-Clay Max: 0.42 Max: 8.4 Materials (more SOILS, Silts and Min: 0.01 Min: 7.4 than 35 pct. Clays (liquid passing No. limit less than 200), Clayey 50%), Lean Clay Soils.

Soil Map ID: 3

Soil Component Name: Water

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Imperial

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward

movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

	Soil Layer Information							
	Bou	ındary		Classification		Saturated hydraulic		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec (pH)		
1	0 inches	11 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9	

	Soil Layer Information							
	Bou	ndary		Classification		Saturated hydraulic		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec (pH)		
2	11 inches	59 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 4 Min: 1.4	Max: 8.4 Min: 7.9	

Soil Map ID: 5

Soil Component Name: Rositas

Soil Surface Texture: fine sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to

excessively drained sands and gravels.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

	Soil Layer Information							
	Boundary			Classification		Saturated hydraulic		
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	Soil Reaction (pH)	
1	0 inches	9 inches	fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9	
2	9 inches	59 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9	

Soil Map ID: 6

Soil Component Name: Vint

Soil Surface Texture: loamy very fine sand

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 122 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic	
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	conductivity micro m/sec	oon modellen
1	0 inches	9 inches	loamy very fine sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9
2	9 inches	59 inches	loamy fine sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 7.9

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE SEARCH DISTANCE (miles)

Federal USGS 1.000

Federal FRDS PWS Nearest PWS within 0.001 miles

State Database 1.000

FEDERAL USGS WELL INFORMATION

LOCATION MAP ID WELL ID FROM TP

A1 USGS40000129859 1/2 - 1 Mile North A2 USGS40000129858 1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

LOCATION MAP ID WELL ID FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

LOCATION MAP ID WELL ID FROM TP

No Wells Found

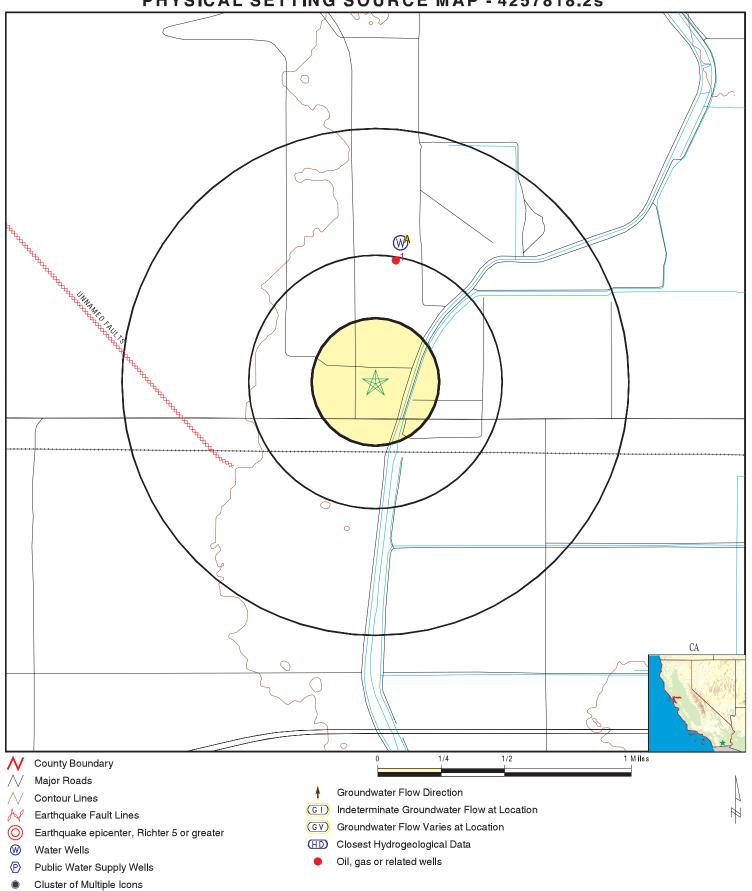
OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

LOCATION MAP ID WELL ID FROM TP

1 CAOG9A000002943 1/4 - 1/2 Mile North

PHYSICAL SETTING SOURCE MAP - 4257818.2s



SITE NAME: Dixieland East Solar Project

ADDRESS: Brown Road and Evan Hewes Highway

Thermal CA 92274 LAT/LONG: 32.7932 / 115.7731 **GS Lyon Consultants**

CLIENT: GS Lyon Cor CONTACT: Randy Lyon

INQUIRY#: 4257818.2s

April 08, 2015 1:53 pm DATE:

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance

Elevation Database EDR ID Number

A1 North 1/2 - 1 Mile

FED USGS USGS40000129859

US

1/2 - 1 Mile Higher

Org. Identifier: USGS-CA

Formal name: USGS California Water Science Center

Monloc Identifier: USGS-324804115461402 Monloc name: 016S012E06P002S

Monloc type: Well

Monloc desc: Not Reported

18100200 Drainagearea value: Not Reported Huc code: Contrib drainagearea: Not Reported Drainagearea Units: Not Reported 32.8011689 Contrib drainagearea units: Not Reported Latitude: Longitude: -115.7713925 Sourcemap scale: Not Reported Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 33.00 Vert measure units: feet Vertacc measure val: 5.

Vert accmeasure units: feet

Vertcollection method: Interpolated from topographic map

Vert coord refsys: NGVD29 Countrycode:

Aquifername: Basin and Range basin-fill aquifers

Formation type: Not Reported Aquifer type: Not Reported

Construction date: 1952 Welldepth: Not Reported

Welldepth units: Not Reported Wellholedepth: 7806

Wellholedepth units: ft

Ground-water levels, Number of Measurements: 0

A2 North FED USGS USGS40000129858

1/2 - 1 Mile Higher

Org. Identifier: USGS-CA

Formal name: USGS California Water Science Center

Monloc Identifier: USGS-324804115461401 Monloc name: 016S012E06P001S

Monloc type: Well

Monloc desc: Not Reported

Huc code: 18100200 Drainagearea value: Not Reported Drainagearea Units: Not Reported Contrib drainagearea: Not Reported Contrib drainagearea units: Not Reported 32.8011689 Latitude: Longitude: -115.7713925 Not Reported Sourcemap scale: Horiz Acc measure: Horiz Acc measure units: seconds

Horiz Collection method: Interpolated from map

Horiz coord refsys: NAD83 Vert measure val: 32.00 Vert measure units: feet Vertacc measure val: .1

Vert accmeasure units: feet

Vertcollection method: Level or other surveying method

Vert coord refsys: NGVD29 Countrycode: US

Aquifername: Basin and Range basin-fill aquifers

Formation type: Not Reported

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type: Not Reported

Construction date: 1958 Welldepth: 364
Welldepth units: ft Wellholedepth: 388
Wellholedepth units: ft

Ground-water levels, Number of Measurements: 0

GEOCHECK®-PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance

pirection
istance
Database EDR ID Number

1 North OIL_GAS CAOG9A000002943 1/4 - 1/2 Mile

Any Field

Districtnu: 1 Apinumber: 02500038
Blmwell: N Redrillcan: Not Reported

Dryhole: N Wellstatus: F

Operatorna: Chevron U.S.A. Inc.

Countyname: Imperial Fieldname:
Areaname: Any Area
Section: 6

Township: 16S Range: 12E

Basemeridi: SB Elevation: Not Reported

Locationde: Not Reported Glat: 32.80016 Glong: -115.771714 Gissourcec: hud Comments: Not Reported

Leasename:F. D. BrowneWellnumber:1Epawell:NHydraulica:N

Confidenti: N Spuddate: 30-DEC-99
Welldeptha: Not Reported Redrillfoo: Not Reported

Abandonedd: // Completion: //

Gissymbol: PDH Site id: CAOG9A000002943

GEOCHECK®- PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92274	1	0

Federal EPA Radon Zone for IMPERIAL County: 3

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for IMPERIAL COUNTY, CA

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor Living Area - 2nd Floor	1.450 pCi/L Not Reported	100% Not Reported	0% Not Reported	0% Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map. USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208 Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency

(USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at

private sources such as universities and research institutions.

EPA Radon Zones Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

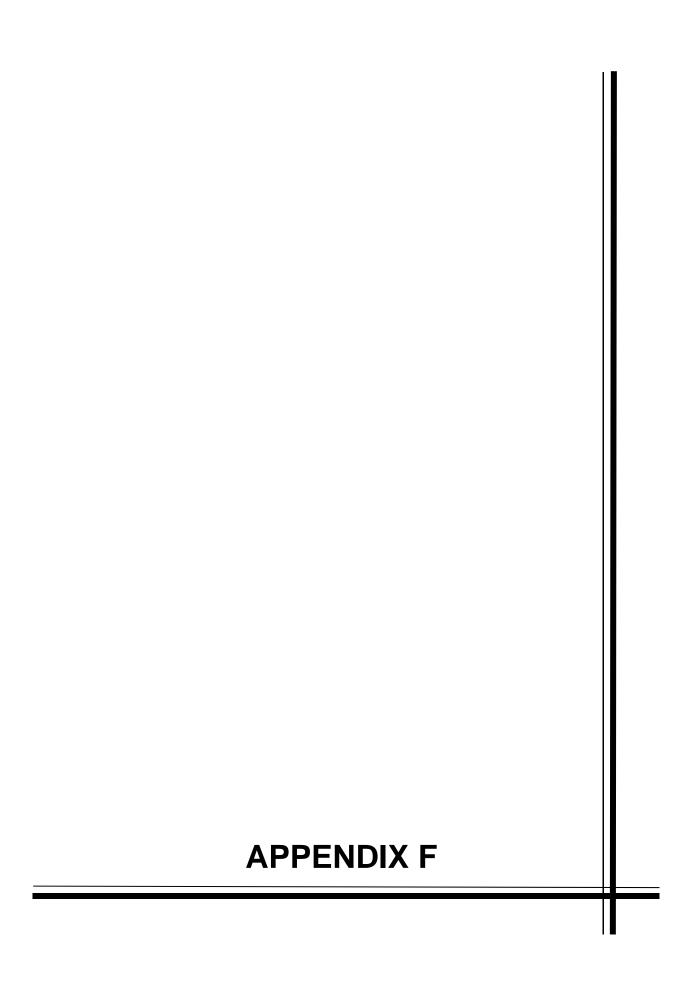
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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780 N. 4th Street El Centro, CA 92243 (760) 337-1100

Phase I Environmental Site Assessment (ESA) User Questionnaire

Client: SEPV Imperial, LLC

Project: SEPV Dixieland East

Completed By: Michael Stern

Relationship to Property: Buyer

Date Completed: April 22, 2015

1) Environmental cleanup liens that are filed or recorded against the site.

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law?

No.

2) Activity and land use limitations (AUL's) that are in place on the site or that have been filed or recorded in a registry.

Are you aware of any AUL's, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

No.

3) Specialized knowledge or experience of the person seeking to qualify for the LLP.

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

No.

4) Relationship of the purchase price to the fair market value of the property if it were not contaminated.

Does the purchase price being paid for this property reasonable reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

Yes, the purchase price reflects the fair market value.

5) Commonly know or reasonably ascertainable information about the property.

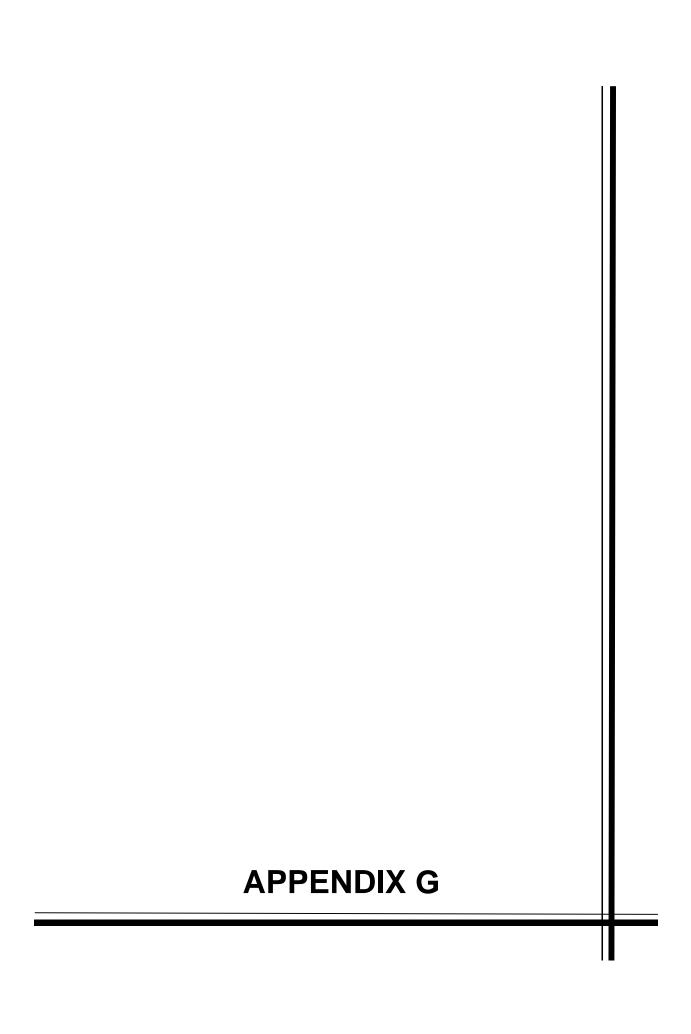
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

- a. Do you know the past uses of the property? If so what were they? *No*.
- b. Do you know of specific chemicals or oils that are present or once were present at the property? *No.*
- c. Do you know of spills or other chemical releases that have taken place at the property?
 No.
- d. Do you know of any environmental cleanups that have taken place at the property?
 No.

6) The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation.

As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

No.





Education

B.S. Civil Engineering (Magna Cum Laude) California Polytechnic University, Pomona Campus 1978

Registration

Registered Civil Engineer No. 31921, California Registered Civil Engineer No. 16994, Arizona

Professional Experience

1987 - Present	Principal Engineer
	Southland Geotechnical, Inc.
1982 - 1987	Principal Engineer
	Lyon Engineers, Inc.
1978 - 1981	Partner/Senior Engineer
	Tesco Engineering
1974 - 1977	Survey Party Chief
	Tesco Engineering
1972 - 1973	Survey Party Chief
	Lyon & Associates

Summary of Experience

As Principal Engineer, Mr. Lyon is responsible for financial and technical management of all employees in Southland Geotechnical's four branch offices. Mr. Lyon has performed site investigations for residential geogrid-reinforced slopes, shopping subdivisions, centers, military airfields, roadways, administration and office buildings, elementary and high schools, goldmine mill processing facilities, hydro-electric plants, power transmission lines, electrical substations, co-generation power plants and geothermal power plants. He has provided design for drilled piers, driven piles, stone columns and floating (rigid) mats, and has performed seismic risk evaluations, ground shaking analyses, liquefaction studies and liquefaction induced settlements studies. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial and Coachella Valleys for over 20 years. Mr. Lyon's experience also includes forensic investigations for foundation/structural distress to residential, commercial and educational facilities, and has performed pressure grout stabilization and lifting for distress remediation.

Jeffrey O. Lyon, PE Principal Engineer

Selected Project Experience

Aten Road Improvements, Imperial, CA

Performed Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

Gateway to the Americas, Calexico, CA

Conducted Phase I ESA, geologic hazards study and geotechnical investigation including liquefaction evaluation for 1,700 acre development associated with new Port of Entry east of Calexico

El Centro Magistrate Court, El Centro, CA

Conducted geotechnical investigation and Phase I ESA for new Federal Magistrate Court building at site with soft soil conditions requiring foundation settlement analysis

- El Centro Regional Medical Center, El Centro, CA Conducted Phase I ESA and geotechnical investigation for 50,000 sf, 2-story addition to the medical center's emergency room, operating rooms, and recovery rooms.
- Brawley Union High School, Brawley, CA
 Conducted Phase II investigation for PCB and lead
 contamination of surficial soil and hydrocarbon
 contamination of subsurface soil of a property proposed
 for purchase.

EW Corporation Site, Westmorland, CA

Conducted Phase II investigation for hydrocarbon contamination of subsurface soil of a service station site with leaking underground storage tanks prior to property purchase

- Various Apartment Complexes, Imperial County, CA Conducted Phase I environmental investigation at numerous proposed apartment complex site within the Imperial Valley
- Hwy 98 Improvements, Imperial, CA

Performed Phase I environmental site assessment for improvements to Hwy 98 for a new intersection in accordance to CalTrans requirements.

Professional Affiliations

American Society of Civil Engineers, Member American Society of Testing Materials, Member American Concrete Institute, Certified Examiner Association of Professional Firms Practicing in the Geosciences, Member



Education

B.S. Business Management San Diego State University, 2005

Professional Experience

2006 - Present Environmental Technician GS Lyon, Inc.

Technical Seminars

ASTM E 1527-05 Environmental Site Assessments for Commercial Real Estate

Summary of Experience

As Environmental Technician, Mr. Lyon is responsible for conducting site visits and preparing Phase I ESA Reports. Mr. Lyon has conducted Phase I and Phase II ESA's throughout the Imperial Valley for over 7 years.

Randy O. Lyon Environmental Technician

Selected Project Experience

· Aten Road Improvements, Imperial, CA

Conducted Phase I environmental site assessment for improvements to Aten Road in accordance to CalTrans requirements.

- 8 Minutenergy, Calipatria/Calexico, CA
 Conducted Phase I ESA associated with the
 development of solar farms.
- Old Pioneer Van & Storage Site,234 Main Street, El Centro, CA

Conducted a Phase I ESA for the old Pioneer Van and Storage facility.

- Calipatria Family Apartments, Calipatria, CA
 Conducted Phase I ESA for the Calipatria Family
 Apartments complex.
- New School Site @ Latigo Ranch, Brawley, CA Conducted Phase I environmental site assessment for a proposed new school.
- · Stans Auto Body, El Centro, CA

Conducted a Phase I investigation and sampled surface and subsurface soils for hydrocarbon contamination of subsurface soil around body and paint shop.

 Old Chevron (Ortho) Bulk Fertilizer Facility, Calipatria County, CA

Conducted Phase I and Phase II environmental investigation consisting of sampling surface and subsurface soils for fertilizer contamination.

800-812 Imperial Avenue, Calexico, CA

Conducted Phase I environmental investigation and environmental sampling of surface and subsurface soils for hydrocarbon contamination.

PRELIMINARY HYDROLOGY STUDY for SEPV IMPERIAL, LLC DIXIELAND PHOTOVOLTAIC PROJECTS COUNTY OF IMPERIAL, CALIFORNIA

Prepared for: SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

Prepared by:
FOMOTOR
ENGINEERING

225 S. Civic Drive, Suite 1-5 **Palm Springs**, California 92262

Phone (760)323-1842

Fax (760)323-1742

June 9, 2015



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I. Report

II. Reference Material

- a. Flood Insurance Rate Map (U.S. Department of Homeland Security Federal Emergency Management Act Map Service Center)
- b. Portions of Geotechnical Reports (Landmark Consultants, Inc. June 2015)
- c. Boring Logs and Infiltration Tests (Landmark Consultants, Inc. June 2015)

III. Retention Storage Volume and Infiltration Duration Calculations

VI. Figures & Exhibits

- i. Preliminary Hydrology Exhibit –Sheet 1
- ii. Preliminary Hydrology Exhibit Sheet 2
- iii. Conceptual Grading Plan SEPV Dixieland East
- iv. Conceptual Grading Plan SEPV Dixieland West

PRELIMINARY HYDROLOGY STUDY FOR DIXIELAND PHOTOVOLTAIC PROJECTS

PROJECT SITE LOCATION

The SEPV Dixieland East Site-East of Brown Road 20.6-acre proposed development is located northeast of the corner of Brown Road and West Evan Hewes Highway. The SEPV Dixieland East Site-West of Brown Road 4.7-acre proposed development is located just west of Brown Road, and north of West Evan Hewes Highway. The SEPV Dixieland West 40.0-acre proposed development is located about 70-feet north of West Evan Hewes Highway, and 1,350-feet northwest of the corner of West Evan Hewes Highway and Brown Road. All three proposed sites are located in the County of Imperial, California. The proposed development sites are associated with APN's: 034-390-026, 051-047-001, 051-031-001, and 051-035-001.

PROJECT SITE DESCRIPTION

The SEPV Dixieland East Site-East of Brown Road is presently mostly vacant, with an existing elevated concrete irrigation channel running west to east, where it connects with the elevated Westside Main Irrigation Channel, just east of the site. The location where the west to east irrigation channel meets the Westside Main Irrigation Channel, causes existing runoff to split and change directions to flow north approximately 2,000-feet towards the outlet of Coyote Wash (FEMA Zone "A"), and south over West Evan Hewes Highway approximately 3,500-feet to the outlet of another FEMA Zone "A" wash (See FEMA Flood Map in Reference Materials). The west to east concrete channel and elevated area on the project site will be removed, however runoff from the project site will still follow existing patterns. The area north of the east to west concrete channel has an elevation drop of approximately 4 feet from west to east, at an average slope of 0.8% over about 470-feet, and ends at a low flat area. The area to the south of the east-west concrete channel drops about 4-feet from west to slightly northeast, at an average slope of 0.9%, and ends at a small low area in the northeast corner of the sub-area (See Preliminary Hydrology Plan, Sheet 2 for details). The project site is covered with a layer of "Silty sand" (Type SM) that is 4-6-feet deep with "Clay" (Type CL) below the sand layer. (See Portion of Geotechnical Report Dixieland East Solar Farm and East Boring Logs in the Reference Materials).

The SEPV Dixieland East Site-West of Brown Road is presently mostly vacant, with an existing elevated concrete irrigation channel running east to west on the far northern portion of the site, however the proposed development does not cross on to this area. This project site has an existing elevation drop of approximately 2.5 feet from west to east, at an average slope of 0.4% over about 600-feet (See Preliminary Hydrology Plan, Sheet 2 for details). The project site is covered with a layer of "Silty sand" (Type SM) that is 4-6-feet deep with "Clay" (Type CL) below the sand layer. (See Portion of Geotechnical Report Dixieland East Solar Farm and East Boring Logs in the Reference Materials). Runoff flows across the proposed site location to the east and toward the proposed SEPV Dixieland East Site-East of Brown Road.

The SEPV Dixieland West Site is presently vacant, and has an elevation drop of 1% from west to east. Silty sand (SM) soils cover the project site to a depth of 50 feet. "A 4-foot thick silty clay (CL) layer encountered at a depth of 4 feet on the south side of the site and at a depth of 8 feet in the northeast corner." (See Portion of Geotechnical Report Dixieland West Solar Farm and West Boring Logs in the Reference Materials). Runoff currently is directed across the proposed site location from west to east, and exits the site toward both SEPV Dixieland East Site locations (See Preliminary Hydrology Plan, Sheet 1 for details).

Single axis sun-tracking solar photovoltaic arrays are proposed for each site. The project site areas are located in shaded FEMA Flood Zone X, which is described as: "Areas of 2% annual chance flood; areas of 1% chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood." (See Imperial County Flood Insurance Rate Map numbers 06025C1675C, Effective September 26, 2008, in the Reference Materials).

PURPOSE

Onsite Conditions

Each proposed development is required to create retention storage equal to three inches of rainfall over the disturbed area of each project site. The retention storage must infiltrate or drain within 72-hours. This can be achieved through infiltration, or controlled discharge, as long as the proposed discharge rate off the site is at or less than existing conditions. If the basin did not empty within 72-hours, then the retention storage requirement would increase to five inches over the disturbed area of each respective project site, as per County of Imperial Department of Public Works Engineering Design Guidelines Manual. The three-inch depth was initially used as an estimate of proposed storage runoff for all sites, and appears to continue to apply in this case, based upon the results of the percolation tests.

Offsite Conditions

Offsite run-on to the project sites will be addressed to show that the proposed development does not redirect or increase the runoff to any adjacent areas. Offsite flow run-on to the proposed site, in general, flows from west to east, as does the runoff out from the proposed project sites, with the exception of the SEPV Dixieland East Site-East of Brown Road where runoff leaving the site turns, and is directed to the north and south.

METHODOLOGY

The materials included with this study are presented to satisfy the criteria set forth in the County of Imperial Department of Public Works Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement, Drainage, and Grading Plans Within Imperial County, Section III Drainage Improvements, Prepared: September 9, 2004, and Revised: September 15, 2008.

RESULTS OF REQUIRED RETENTION STORAGE VOLUMES

Summary of results of the retention storage volumes and infiltration rates are as follows: Please refer to the attached Preliminary Hydrology Plan, Sheets 1 and 2, Conceptual Grading Plan SEPV Dixieland West, Conceptual Grading Plan SEPV Dixieland East, and retention storage with infiltration calculations in the Reference Materials.

SEPV Dixieland East-East of Brown Road

(See Basin Storage Volume with Infiltration Calculations in Reference Materials)

BASIN ID	TOTAL AREA TO BE	REQUIRED	BASIN	PROPOSED	DURATION
	DISTURBED BY	RUNOFF	SURFAC	BASIN STORAGE	UNTIL STORAGE
	CONSTRUCTION(SQ-	STORAGE	E AREA	VOLUME (CU-	IS EMPTY
	FT)	VOLUME (CU-FT)	(SQ-FT)	FT)	(HOURS)
2			413,386	207,405	UNDER 72
TOTAL	807,546	201,887	413,386	207,405	UNDER 72

SEPV Dixieland East-West of Brown Road

(See Basin Storage Volume with Infiltration Calculations in Reference Materials)

BASIN ID	TOTAL AREA TO	REQUIRED	BASIN	PROPOSED	DURATION
	BE DISTURBED	RUNOFF	SURFACE	BASIN	UNTIL
	BY	STORAGE	AREA (SQ-	STORAGE	STORAGE IS
	CONSTRUCTION	VOLUME	FT)	VOLUME	EMPTY
	(SQ-FT)	(CU-FT)		(CU-FT)	(HOURS)
3			93,503	56,855	UNDER 72
TOTAL	162,285	40,571	93,503	56,855	UNDER 72

SEPV Dixieland West

(See Basin Storage Volume with Infiltration Calculations in Reference Materials)

BASIN ID	TOTAL AREA TO	REQUIRED	BASIN	PROPOSED	DURATION
	BE DISTURBED	RUNOFF	SURFACE	BASIN	UNTIL
	BY	STORAGE	AREA (SQ-	STORAGE	STORAGE IS
	CONSTRUCTION	VOLUME	FT)	VOLUME	EMPTY
	$(SQ ext{-}FT)$	(CU-FT)		(CU-FT)	(HOURS)
<i>1A</i>			232,134	223,209	UNDER 72
1B			254,697	191,023	UNDER 72
TOTAL	1,151,186	287,797	486,831	414,232	UNDER 72

DISCUSSION

SEPV Dixieland West Site

The SEPV Dixieland West project site is 1,740,259 sq-ft (40.0-acres), with an area of construction disturbance of 1,151,186 sq-ft within the project site area. The worst case soil infiltration rate is 1.70-min per inch, and would allow the retention storage to empty within 72-hours with a Factor of Safety of 141 (See Basin Storage with Infiltration Data, and Percolation Tests in the Reference Materials). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of runoff for existing conditions. Onsite retention storage would be created by elevating two of the north to south access roads that would run perpendicular to the existing flow path. The western north to south perimeter road would be constructed at existing grade to allow existing run-on to the site to continue along the existing flow path, and enter the site. The eastern north to south perimeter road and center north to south interior road would be elevated 1.5-feet to act as weirs, to direct runoff along the existing flow path, and help create two proposed basin storage areas within the project site (See Preliminary Hydrology Plan Sheet 1, and Conceptual Grading Plan SEPV Dixieland West in the reference Materials). In addition, the west to east outer perimeter roads, also would be elevated 1.5-feet to help contain runoff storage in the proposed basin areas. The runoff weir flow exiting the site over the top of the eastern north to south perimeter road would sheet flow off the site to the east along the existing flow path toward the SEPV Dixieland East project site locations.

SEPV Dixieland East Site-West of Brown Road

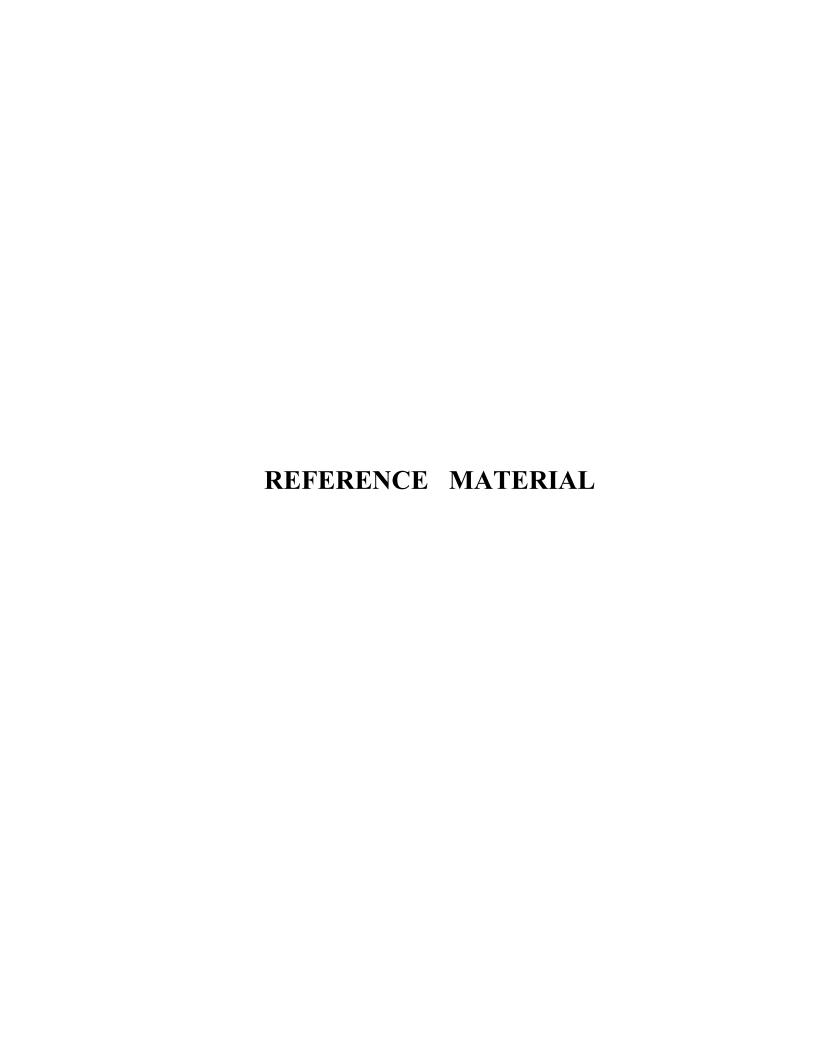
The SEPV Dixieland East Site-West of Brown Road is 204,561 sq-ft (4.7-acres), with a limit of construction disturbance of 162,285 sq-ft within the project site area. The worst case soil infiltration rate is 1.13-min per inch, and would allow the retention storage to empty within 72-hours with a Factor of Safety

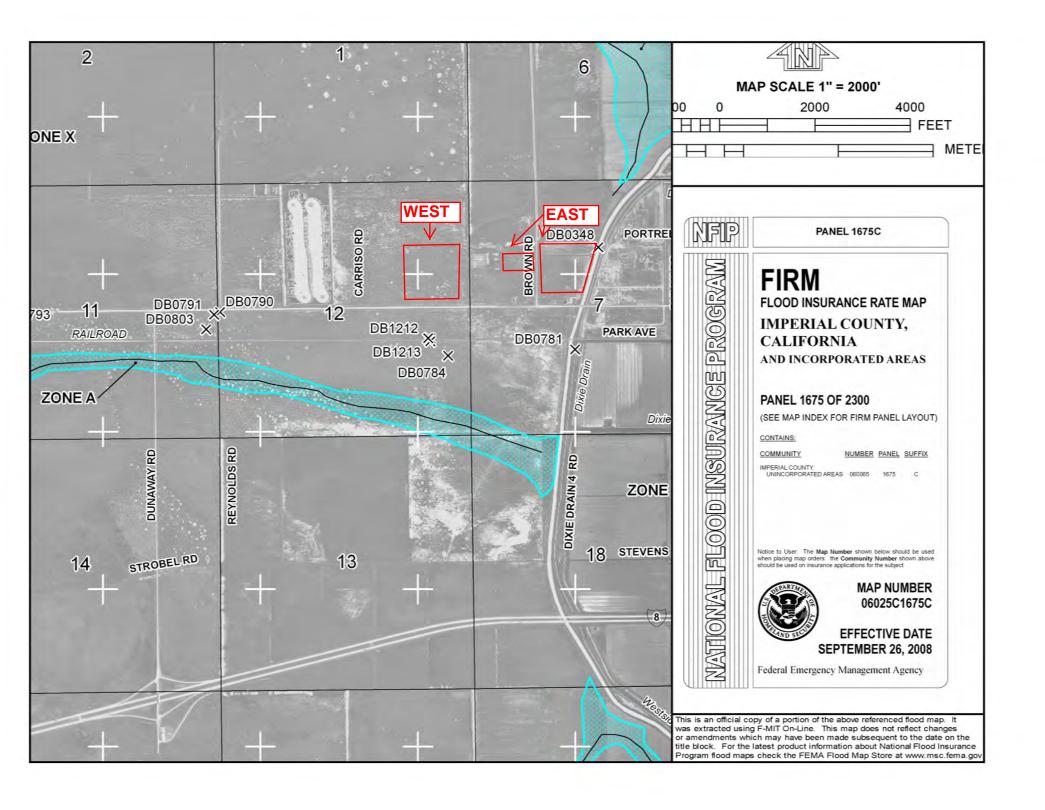
of 318 (See Basin Storage with Infiltration Data, and Percolation Tests in the Reference Materials). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of flow for existing conditions. Onsite retention storage would be created with the proposed perimeter roads along the north, south, and east sides of the project area to be elevated 1.0-feet to contain the proposed basin storage area within the project site (See Preliminary Hydrology Plan Sheet 2, and Conceptual Grading Plan SEPV Dixieland East in the reference Materials). The west perimeter road would be constructed at existing grade to allow existing runoff to continue along the current flow path, and enter the site. Weir flow over the elevated east perimeter road would allow runoff to continue as sheet flow in the existing condition west to east direction across Brown Road, and toward the SEPV Dixieland East Site-East of Brown Road, while providing more than the required storage runoff capacity in conjunction with the north and south elevated perimeter roads.

SEPV Dixieland East Site-East of Brown Road

The SEPV Dixieland East Site-East of Brown Road is 898,544 sq-ft (20.6-acres), with the limit of construction disturbance of 807,546 sq-ft within the project site area. The worst case soil infiltration rate is 17.82-min per inch, and would allow the retention storage to empty within 72-hours with a Factor of Safety of 34 (See Basin Storage with Infiltration Data, and Percolation Tests in the Reference Materials). The infiltration test results allow storage of three inches of runoff over the area of construction disturbance. Grading would be used to level the site, while maintaining the direction of flow for existing conditions. Proposed retention storage would be created with outer perimeter roads along the north, south and east sides of the project area to be elevated 0.6-feet. (See Preliminary Hydrology Plan Sheet 2, and Conceptual Grading Plan SEPV Dixieland East in the reference Materials). The west perimeter road would be constructed at existing grade to allow existing runoff to continue along the current flow path, and enter the site. Weir flow over the east perimeter road would allow runoff from the site to continue as sheet flow in the direction of existing conditions from west to east toward the Westside Main Irrigation Channel, while providing more than the required storage runoff capacity. Runoff north of the demolished east to west irrigation canal would exit the site as weir flow over the elevated east perimeter road, and then be directed to the north along the existing flow path toward the outlet of Coyote Wash (FEMA Zone A) about 2,000 feet away. Runoff south of the demolished east to west irrigation canal would exit the site as weir flow over the elevated east perimeter road, and then be directed to the south along the existing flow path over West Evan Hewes Highway toward the outlet of the existing FEMA Zone A Wash, about 3,500 feet away. Existing offsite drainage along the east project boundary would be improved to eliminate ponding and nuisance water from accumulating at the existing low area near the intersection of the elevated existing east to west concrete irrigation channel across the project site, and Westside Main Irrigation Channel.

In general, the proposed site grading, and specific elevated onsite roads have been designed to create the required onsite retention storage, while maintaining the direction of existing condition runoff without increasing the discharge rate to adjacent properties, and meeting the requirements established in the County of Imperial Department of Public Works Engineering Design Guidelines Manual.







June 26, 2015

780 N. 4th Street El Centro, CA 92243 (760) 370-3000 (760) 337-8900 fax

77-948 Wildcat Drive Palm Desert, CA 92211 (760) 360-0665 (760) 360-0521 fax

Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

Geotechnical Report
SEPV Dixieland West Solar Farm
NWC Carriso Avenue and Evan Hewes Hwy
Imperial County, California
LCI Report No. LE15071

Dear Mr. Hall:

This geotechnical report is provided for design and construction of the proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County, California. Our geotechnical exploration was conducted in response to your request for our services. The enclosed report describes our soil engineering site evaluation and presents our professional opinions regarding geotechnical conditions at the site to be considered in the design and construction of the project.

This executive summary presents *selected* elements of our findings and professional opinions. This summary *may not* present all details needed for the proper application of our findings and professional opinions. Our findings, professional opinions, and application options are *best related through reading the full report*, and are best evaluated with the active participation of the engineer of record who developed them. The findings of this study are summarized below:

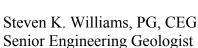
- Silty sand (SM) soils cover the project site to a depth of 50 feet. A 4-foot thick silty clay (CL) layer encountered at a depth of 4 feet on the south side of the site and at a depth of 8 feet in the northeast corner.
- The risk of liquefaction induced settlement is low due to the dense nature of the saturated granular subsurface soils.
- The native sandy soils are not aggressive to concrete and steel. No special concrete mixes are required. Steel posts driven into the sand and lower clays may require corrosion protection.
- The sandy soils are suitable for onsite infiltration in stormwater basins.

• Pavement structural sections may be designed for silty sand subgrade soils (R-Value = 40).

We did not encounter soil conditions that would preclude development of the proposed project provided the professional opinions contained in this report are considered in the design and construction of this project.

We appreciate the opportunity to provide our findings and professional opinions regarding geotechnical conditions at the site. If you have any questions or comments regarding our findings, please call our office at (760) 370-3000.

Respectfully Submitted, Landmark Consultants, Inc.





Julian R. Avalos, PE Senior Engineer



Jeffrey O. Lyon, PE President

Distribution: Client (4)



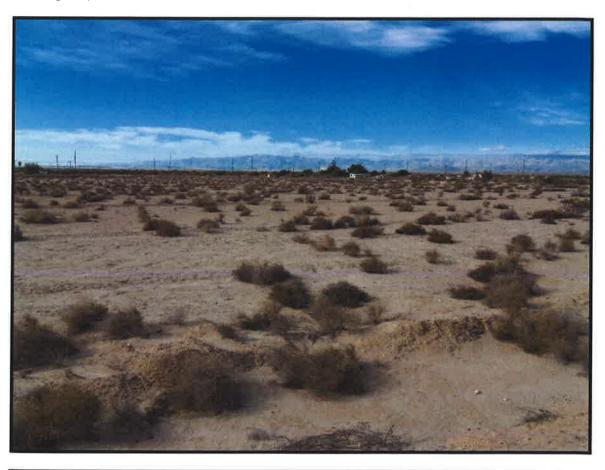
Geotechnical Investigation Report

Dixieland East Solar Farm

Brown Road north of Evan Hewes Hwy Imperial County, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049





Prepared by:

Landmark Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 370-3000

June 2015



June 23, 2015

780 N. 4th Street El Centro, CA 92243 (760) 370-3000 (760) 337-8900 fa x

77-948 Wildcat Drive Palm Desert, CA 92211 (760) 360-0665 (760) 360-0521 fax

Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

Geotechnical Report
Dixieland East Solar Farm
Brown Road north of Evan Hewes Hwy
Imperial County, California
LCI Report No. LE15070

Dear Mr. Hall:

This geotechnical report is provided for design and construction of the proposed 2MW Dixieland East solar power generation facility located on both sides of Brown Road north of Evan Hewes Hwy in western Imperial County, California. Our geotechnical exploration was conducted in response to your request for our services. The enclosed report describes our soil engineering site evaluation and presents our professional opinions regarding geotechnical conditions at the site to be considered in the design and construction of the project.

This executive summary presents *selected* elements of our findings and professional opinions. This summary *may not* present all details needed for the proper application of our findings and professional opinions. Our findings, professional opinions, and application options are *best related through reading the full report*, and are best evaluated with the active participation of the engineer of record who developed them. The findings of this study are summarized below:

- Silty sand (SM) soils cover the project site to a depth of 4 to 6 feet. Silty clay (CL) and clay (CH) soils are encountered below the surficial sands.
- The risk of liquefaction induced settlement is low due to the lack of saturated granular subsurface soils.
- The upper silty sand soils are not aggressive to concrete and steel. No special concrete mixes are required. Steel posts driven into the sands and lower clays will require corrosion protection.
- The sandy soils are suitable for onsite infiltration in stormwater basins.
- Pavement structural sections may be designed for silty sand subgrade soils (R-Value = 40).

We did not encounter soil conditions that would preclude development of the proposed project provided the professional opinions contained in this report are considered in the design and construction of this project.

We appreciate the opportunity to provide our findings and professional opinions regarding geotechnical conditions at the site. If you have any questions or comments regarding our findings, please call our office at (760) 370-3000.

Respectfully Submitted, Landmark Consultants, Inc.

Steven K. Williams, PG, CEG Senior Engineering Geologist



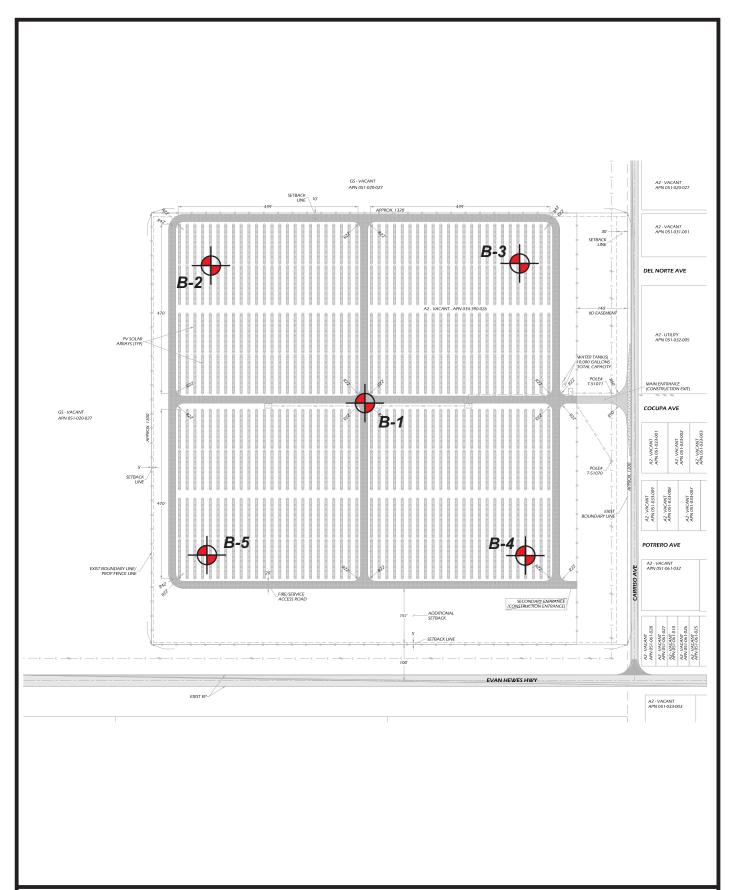
Julian R. Avalos, PE Senior Engineer



Jeffrey O. Lyon, PE President

Distribution: Client (4)







Boring Location Map

Plate A-2

Ē	FIELD			LOG OF BORING No. B-1				LABORATORY				
DEPTH	ᄪ	် တ		(ET (tsf)			SHEET 10				URE ENT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DES	CRIPTION (OF MAT	ΓERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
-	•				SILTY SAI	ND (SM):	Tan, moist, medi	um to fine (grained sand.			
5 —			36		CLAYEY S	SILT (ML):	Brown, moist, de	ense, some	e sands.	105.1	20.5	% passing #200 = 93% <2μ = 35.5%
10 —			38							108.7	4.7	
15 — -			18		SILTY SAI	ND (SM): dium grain	Lt. brown, moist, ed, clay at tip of	medium de sampler	ense,			
20 -			71		saturated,	very dens	se, fine to mediun	n grained	<u></u>			
25 — - - -			36		dense, fin	e grained						
30 -			94/10"									
35 - 35 -			47		1" clay lay	⁄er						
40 - 40 - -			86/8"		1" clay lay	ver						
45 - 45 - - -			52									
50 —			82/11"		some thin	clay layers	s					
55 — 	Groundwat Backfilled						ntered at a depth vated soil	of 44 ft. at	time of drilling			
DATE DRILLED: 5/21/15							TOTAL DEPT	H: 5	51.5 Feet	DE	PTH TO W	/ATER: 20.7 ft.
LOGGED BY: P. LaBrucherie					rie				ollow Stem Auger	_	METER:	
SURFACE ELEVATION: Approximately					Approximate	ely -20'	HAMMER WT	::	140 lbs.	DR	OP:	30 in.
	PROJECT NO JE15071 LANDMARK PLATE B-1											

PROJECT No. LE15071

LAND MARK
Geo-Engineers and Geologists

PLATE B-1

Ī	. FIELD			L	OG OF BORING	No. B-2			RATORY	
DEPTH	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		SHEET 1 OF 1 DESCRIPTION OF		DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - -	S		80	<u>а</u> а	SILTY SAN	ID/SANDY SILT (SM/ML): Bro			200	
5 - 5 -			68			SM): Tan, humid, fine to coars	se grained, very dense	101.4	4.5	Passing #200 = 7%
10 —			66					105.7	2.5	
15 —	Z		12		CLAYEY SA	ANDY SILT (ML): Lt. brown, vo	ery moist, medium dense		16.3	% passing #200 = 64% <2 μ = 15%
20 —										
25 —										
30 -										
35 — - -										
40 -										
45 - - -										
50 -	50									
55 - 55 - - - -		-			Total Depth No ground Backfilled v	u = 16.5' water encountered at time of d vith excavated soil	rilling			
60 DATE DRILLED: 5/24/45				4.5				55	DTU TO 14	(ATED:
DATE DRILLED: 5/21/15 LOGGED BY: P. LaBrucherie					rie	TOTAL DEPTH: TYPE OF BIT:			METER:	/ATER: <u>NA</u> 8 in.
SURFACE ELEVATION: Approximately										30 in.
PROJECT No. LE15071)71	LAND	Mark		PL/	ATE B-2

Geo-Engineers and Geologists

Ī	FIELD					LOG C	F BORING	No. B-3			RATORY
DEPTH	Щ	(i)		(tsf)			SHEET 1 OF 1		<u></u>	URE ENT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESC	RIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
5 — - 5 —	• •		33		fine to m	AND (SM): I edium graine y at top of sa		mid,	100.0	1.6	
10 —			27		SILTY CI	LAY (CL): Bi	rown, moist, stiff, tra	ace sand.	102.1	22.4	LL=33% PI=17%
15 —	V		14		CLAYEY very fine	SILTY SANE to fine grain	ND (SM): Brown, saturated, medium dense, ained,				
20 —											
25 — 											
30 —											
35 —											
40 —											
45 - - -											
50 —											
55 — - - - 60 —					No grour	oth = 16.5' ndwater enco d with excava	ountered at time of dated soil	rilling			
DATE DRILLED: 5/21/15							TOTAL DEPTH:	16.5 Feet	DE	PTH TO W	/ATER: 15 ft.
LOGGED BY: P. LaBrucherie				erie			Hollow Stem Auger		METER:		
SURFACE ELEVATION: Approximately -2					Approximat	tely -20'	HAMMER WT.: _		DR	OP:	30 in.
	LANDMARK										

PROJECT No. LE15071

LANDWARK
Geo-Engineers and Geologists

PLATE B-3

Ī	FIELD			L	OG OF BORING	No. B-4			RATORY	
DEPTH	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		SHEET 1 OF 1 DESCRIPTION OF		DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - -	•		шО	ш ш	SILTY SAN	D (SM): Lt. brown, dry to hui	mid, se sand.		200	
5 -			18		SILTY CLAY	(CL): Brown, moist, stiff		99.7	14.9	c=0.88 tsf
10 —			48		SAND (SP-S dense	SM): Tan/orange, saturated, o	coarse to fine grained,	111.7	3.3	Passing #200 = 8.5%
15 — -			20		very fine gra	ained, medium dense	<u></u>			
20 —										
25 —										
30 -										
35 — -										
40 —										
45 -										
50 —										
55 — - - - -						= 16.5' er encountered at 14.5 feet at vith excavated soil	time of drilling			
60										
DATE DRILLED: 5/21/15						TOTAL DEPTH:				ATER: 14.5 ft.
LOGGED BY: P. LaBrucherie SURFACE ELEVATION: Approximatel									METER: OP:	8 in. 30 in.
PROJECT No. LE15071)71	LAND	Mark		PL	ATE B-4

Geo-Engineers and Geologists

	FIELD					LOG O	F BORING	No. B-5		LABORATORY			
DEPTH	当	ပ်		(ET (tsf)			SHEET 1 OF 1		Ì ≿	URE ENT wt.)			
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESC	RIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS		
- - -	•				SILTY Sa	AND (SM): Loarse grained	t. brown, dry to hun sand, some fine gra	nid, avel.					
5 —			31		SILTY CI	LAY (CL): Br	own, moist, stiff, int	erbedded with sand	100.4	23.4	c=1.82 tsf		
10 —			20		SANDY :	SILT (ML): B grained sand	rown, moist, mediun	n dense,	100.7	24.9	% passing #200 = 86% <2μ = 15%		
15 —			22		SILTY SA medium		t. brown, very moist	fine to very fine grained,					
20 —													
25 — -													
30 —													
35 —													
40 —													
45 -													
50 -													
55 —					No grou	pth = 16.5' ndwater enco d with excava	untered at time of di ated soil	illing					
	DRILI	LED:	5/21/	15			TOTAL DEPTH:	16.5 Feet	DE	PTH TO W	ATER: NA		
1			P. La		erie			Hollow Stem Auger		METER:			
SURF	ACE E	ELEVATI	ON:		Approxima	tely -20'	HAMMER WT.:		DR	OP:	30 in.		
							LAND	MADIZ					

PROJECT No. LE15071

LANDMARK
Geo-Engineers and Geologists

PLATE B-5



Geo-Engineers and Geologists
Project No.: LE15070

Boring Location Map

Plate A-2

T_	FIELD				LOG OF BORING No. B-1			LABORATORY		
DEPTH	出	, vi	. ⊨	ET (tsf)		SHEET 1 OF 1		۱	URE :NT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	DES	SCRIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
-	•				SILTY SAND (SM):	Tan, moist, medium to	fine grained sand.			
5 —			26	3.0	CLAY (CH): Reddi	sh brown, moist, stiff to	very stiff.	100.1	24.4	LL=60% PI=38% c=1.28 tsf
10 -			19	2.0	some sand layers					LL=56% PI=36%
15 —			14	2.5					25.0	
20 —			28	3.5						
25 — -			15	3.0						
30 -			41	4.5						
35 —			13	2.5						
40 - - -	N		20	2.0	some silt layers					
45 - -	N		12	1.5			-			
50 —			39	2.0	SILTY CLAY (CL):	Dark brown, wet, stiff,	some sand layers			
55 — 					Total Depth = 51.5' Groundwater encor Backfilled with exca	untered at a depth of 44	ft. at time of drilling			
DATE DRILLED: 5/21/15						TOTAL DEPTH:	51.5 Feet	DF	PTH TO W	/ATER: 44 ft.
LOGGED BY: P. LaBrucherie							Hollow Stem Auger		METER:	
SURFACE ELEVATION: Approximately -30'									OP:	
厂		IFOT		E450		Land	MARK			

l

PROJECT No. LE15070

Geo-Engineers and Geologists

II.	FIELD			LOG	OF BORING I	No. B-2			RATORY	
DEPTH	Щ	(v)	_ ⊨	ET (tsf)		SHEET 1 OF 1		<u></u>	URE ENT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)	DE	SCRIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - - 5 —			17		SILTY SAND (SM medium grained s): Brown, dry to moist, f and.	ine to			
_ _ _				2.5	SILTY CLAY (CL):	Brown, moist, stiff				
10 —			36		SILTY SAND (SM) fine grained sand.): Orange-brown, very m	noist, dense,	108.5	9.4	$\Phi = 28^{\circ}$ Passing #200 = 18.3%
15 -			9	3.0	CLAY (CH): Redo	dish brown, very moist, very	ery stiff			
20 -										
25 —										
30 —										
35 - -										
40 —										
45 - -										
50 -										
55 - - - -					Total Depth = 16.5 No groundwater e Backfilled with exc	encountered at time of dri	lling			
60 —										
DATE DRILLED: 5/22/15				15		_ TOTAL DEPTH: _		DEI	PTH TO W	ATER: <u>NA</u>
<u> </u>							Hollow Stem Auger		METER:	
SURFACE ELEVATION: Approximately -30'					Approximately -30'	_ HAMMER WT.:	140 lbs.	_ DR	OP:	30 in.
PROJECT No. LE15070					70	LAND Geo-Engineers	MARK and Geologists		PLA	ATE B-2

Geo-Engineers and Geologists

	FIELD		LOG OF BORING No. B-3			LABORATORY					
DEPTH	Щ	(v)	_ ⊨	ET (tsf)			SHEET 1 OF 1		<u></u>	URE ENT wt.)	
	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESC	RIPTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS
- - -	•				SILTY SA	AND (SM): L	t. brown, dry to moi	st, fine grained sand.			
5 - 5 -			25	2.0	SILTY CL	.AY (CL): Br	own, moist, stiff		98.9	24.8	
10 -			29	3.0	CLAY (CH	H/CL): Redd	ish brown, very mo	st, very stiff	104.6	22.8	c=1.48 tsf LL=50% PI=31%
15 — - -			10					¥			
20 —											
25 —											
30 —											
35 — -											
40 —											
45 — - -											
50 —											
55 -					Groundw	oth = 16.5' ater encount d with excava	tered at 16 ft. at tim	e of drilling			
60 —					Dackillet	A WILLI GALAVO	ALOU JUII				
-	DRILI	_ED:	5/22/	15			TOTAL DEPTH:	16.5 Feet	DE	PTH TO W	/ATER: 16 ft.
LOGGED BY: J. Avalos								Hollow Stem Auger	_	METER:	
SURF	ACE E	ELEVATION	ON:		Approximat	ely -30'	HAMMER WT.: _		DR	OP:	30 in.
F	PRO	JECT	No. L	E150	70		Geo-Engineers	MARK and Geologists		PLA	ATE B-3

Ī	FIELD					LOG OF BORING No. B-4				LABORATORY			
DEPTH	쁘	(i)		(tsf)			EET 1 OF 1		≽	URE ENT wt.)			
□	SAMPLE	USCS CLASS.	BLOW	POCKET PEN. (tsf)		DESCRI	PTION OF	MATERIAL	DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS		
- - -	•				SILTY SAI	ND (SM): Lt. brodium grained sa	own, dry to mois and.	t,					
5 —			14	0.5	CLAYEY S	SAND (SC): Bro	own, very moist,	firm	111.6	19.4	LL=36% PI=21%		
10 —			13	2.5	SILTY CLA	AY (CL): Brown	, moist, stiff		110.6	19.3	LL=24% PI=4%		
15 —	N		17	3.5	CLAY (CH): Reddish brov	wn, very moist, v	ery stiff					
20 —													
-													
25 — - - -													
30 —													
35 —													
40 —													
45 —													
50 —													
55 —					Total Dans	h 40.51							
-					Total Dept No ground Backfilled		ered at time of dr soil	illing					
00							OTAL DEDTI:	40.5.5			ATED: NA		
DATE DRILLED: <u>5/22/15</u> LOGGED BY: J. Avalos						OTAL DEPTH: _	16.5 Feet Hollow Stem Auger		PTH TO W .METER:				
SURFACE ELEVATION: Approximately -30'				Approximate		AMMER WT.:		_	OP:				
LANDMARK													

PROJECT No. LE15070



PLATE B-4

	F FIELD				LOG OF BORING No. B-5				LABORATORY			
DEPTH			ET (tsf)			SHEET 1 OF 1		L	URE ENT wt.)			
□	SAMPLE USCS CLASS.		BLOW COUNT POCKET			DESCRIPTION OF MATERIAL			DRY DENSITY (pcf)	MOISTURE CONTENT (% dry wt.)	OTHER TESTS	
_					SILTY CL	AY (CL): Lt.	brown. dry					
- -					SILTY SA fine to me	ND (SM): Li	t. brown, dry to moi d sand.	st,				
5 - - -			17	1.0	SILTY CL	AY (CL): Bro	own, moist, stiff		100.7	25.8	c=0.94 tsf	
10 —	1		10	0.5	soft to firm	า						
15 —	Z		14	2.5	CLAY (CH	H): Reddish	brown, very moist, v	very stiff				
20 —												
25 —												
- - -												
30 —												
35 — - -												
40 -												
45 —												
50 —												
55 —					Total Dep	th = 16.5'						
60 —					No groun	dwater enco	untered at time of d ted soil	rilling				
							ΔTER: NIA					
					TOTAL DEPTH:			METER:				
	PROJECT No. LE15070 HAMMER WT.: 140 lbs. DROP: 30 in. PLATE B-5							-				

Infiltration Testing Report Stormwater Basins

SEPV Dixieland West Solar Farm

NWC Carriso Avenue and Evan Hewes Hwy

Imperial County, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049





Prepared by:

Landmark Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 337-1100

June 2015



June 25, 2015

780 N. 4th Street El Centro, CA 92243 (760) 370-3000 (760) 337-8900 fax

77-948 Wildcat Drive Palm Desert, CA 92211 (760) 360-0665 (760) 360-0521 fax

Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

> Stormwater Basins Infiltration Testing Report SEPV Dixieland West Solar Farm NWC Carriso Avenue and Evan Hewes Hwy Imperial County, California LCI Project No. LE15071

Dear Mr. Hall

Landmark Consultants, Inc. has completed the six (6) infiltration tests for the SEPV Dixieland West solar power generation facility located along Evan Hewes Highway approximately 5 miles west of Seeley, California. The infiltration testing has been requested to determine ability of the proposed stormwater basins to infiltrate stormwater.

Project Area

The proposed 3MW SEPV Dixieland West solar power generation facility located at the northwest corner of Carriso Avenue and Evan Hewes Hwy in western Imperial County (APN 034-390-026). The project site is vacant, flat-lying with dry desert vegetation covering the site. Several large bushes are located in the central portion of the site.

Infiltration Testing Procedure

The rough grading plans indicate that there will be 1-foot deep stormwater basins covering a majority of the project site. A minimum access roadway width of 20 feet is provided between the stormwater basins and the perimeter of the site. The infiltration testing at the proposed stormwater basins consisted of drilling six (6) 6-inch diameter hand auger borings to a depth of 2 feet below ground surface at the specified locations. The infiltration tests were conducted in conformance with California Test Method 750 (1986) - Method for Determining the Percolation Rate of Soils Using a 6 inch Diameter Test Hole.

The infiltration tests were performed on June 17, 2015 and June 18, 2015. The approximate test locations were established by Fomotor Engineering and are shown on the Infiltration Test Location Map (Plate A-2).

A staff engineer excavated the bore holes and maintained a log of the soil classification. Subsurface soils encountered during the field testing generally consisted of sands and silty sands.

Percolation Procedure Hole Preparation

After logging the soil, perforated PVC pipes were installed within each of the bore holes to allow for measurement of infiltration rates. Pipes were 4-inch diameter PVC (perforated) placed at 2 feet below ground surface (bgs). Prior to placing the pipe a 2-inch layer of 3/8" pea gravel was placed in the bottom of each hole. The perforated pipe was centered in the hole and an additional 6 inches of 3/8" pea gravel was added to the annular space between the pipe and the borehole margin. The pea gravel was tested in our laboratory to determine correction factors for infiltration rate through the pea gravel.

Percolation Presoaking and Measurement Rate

Each test hole was presoaked with water for a minimum of 18 hours to 6 inches above the pea gravel inside the perforated pipes. Presoaking occurred to achieve soil saturation and to allow for swelling of expansive soils.

After the presoak was complete, the water level was returned to 6 inches above the top of pea gravel within the perforated PVC pipe and timed to measure a 1 inch drop in water surface. This was repeated for a minimum of 6 readings.

Infiltration Analytical Results

The soils below the test locations consisted of predominantly silty sand (SM). The measured infiltration rates of the soils at the test locations are tabulated below:

Test No.	Location	Infiltration Rate
P-1	Southwest	1.02 min/in
P-2	Northwest	1.27 min/in
P-3	North-central	1.13 min/in
P-4	Northeast	1.45 min/in
P-5	Southeast	1.70 min/in
P-6	South-central	1.45 min/in

Infiltration rates were determined in uncompacted native soil. The measured infiltration rate is applicable for clear water sources and appropriate factors of safety should be used in applying the field measured rate to infiltration basin designs.

The measured infiltration rates are provided in Appendix C of this report.

Closure

The opportunity to provide professional services for this project is appreciated. Please contact our office with any questions or comments.

GFOLOGIST

Respectfully Submitted,

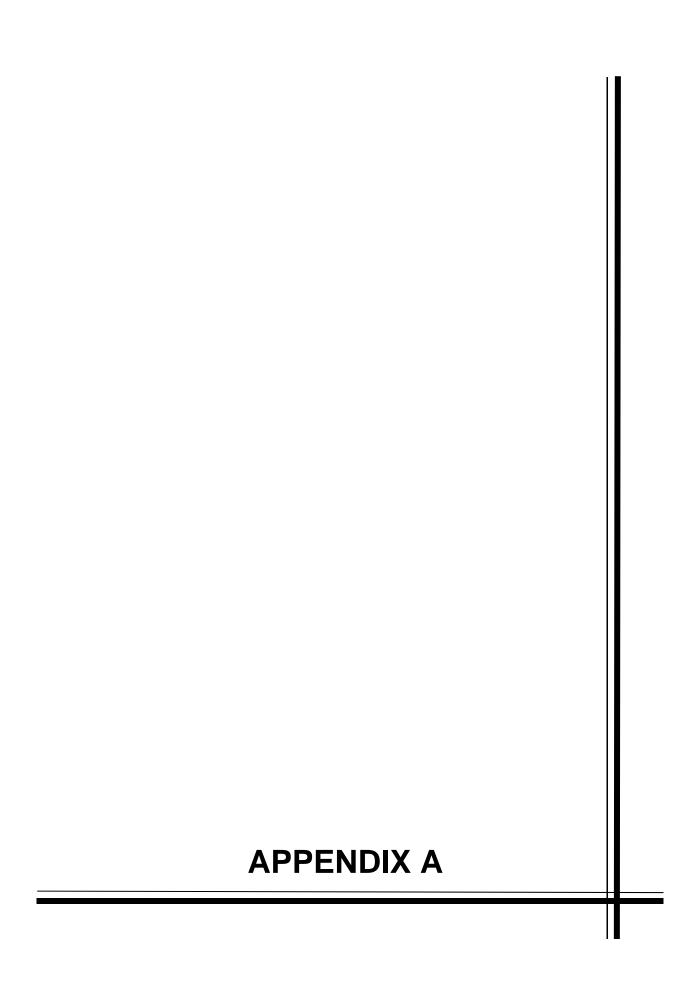
Landmark Consultants, Inc.

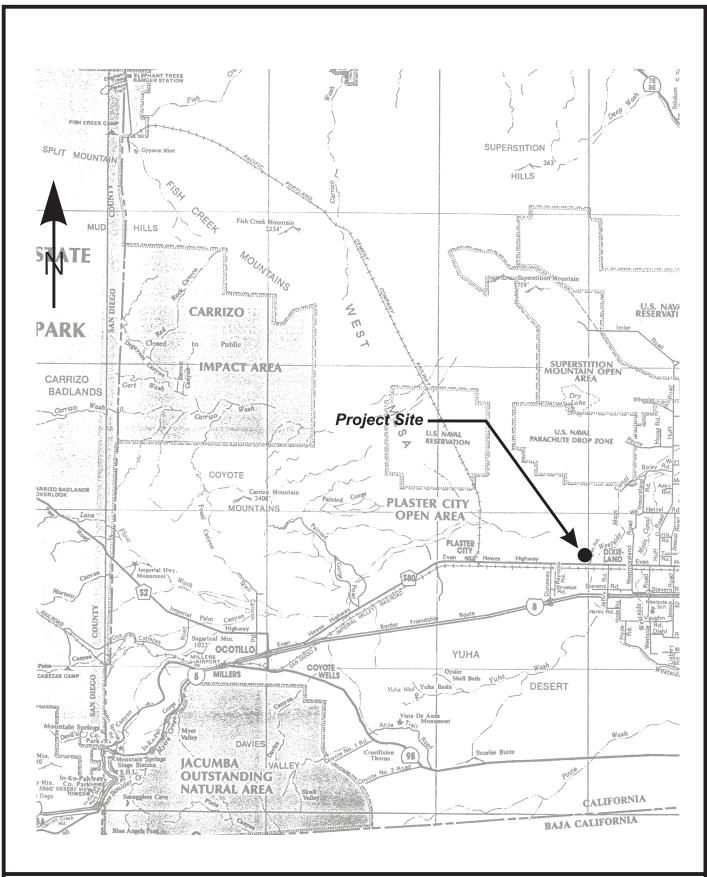
Steven K. Williams, PG, CEO Senior Engineering Geologist

Pete LaBrucherie, EIT Staff Engineer

Appendices

APPENDIX A: Vicinity and Site Maps APPENDIX B: Field Test Results



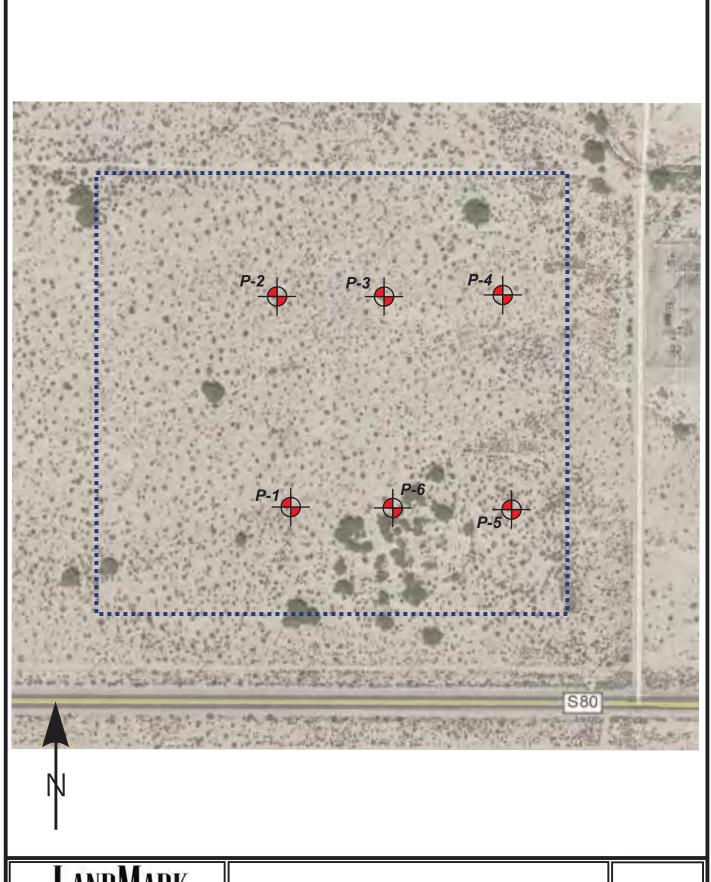


LANDMARK
Geo-Engineers and Geologists

Project No.: LE15071

Vicinity Map

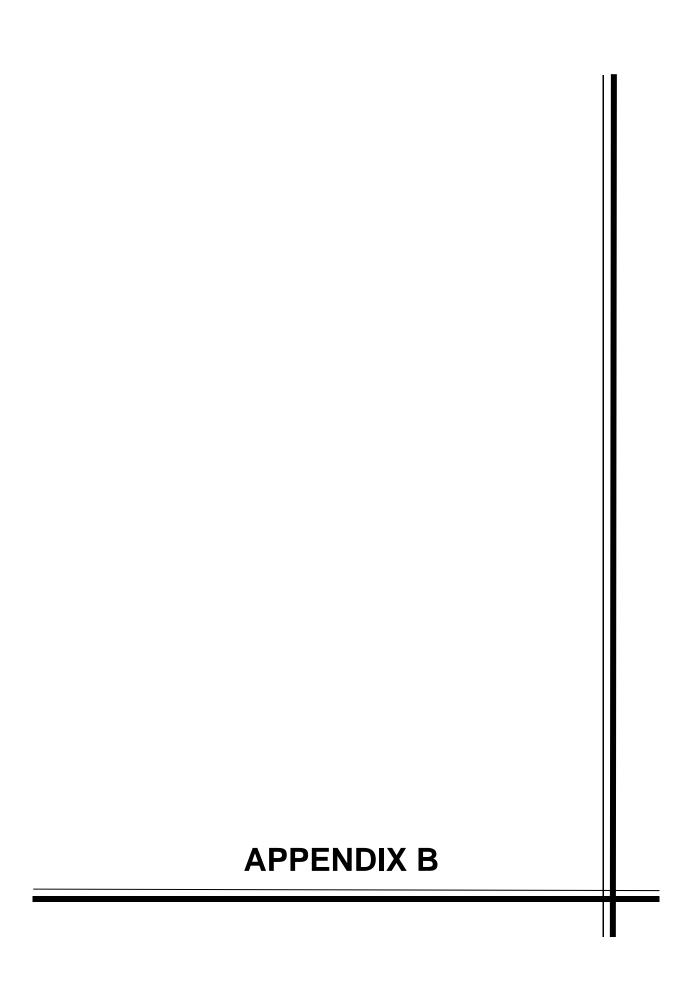
Plate A-1



Geo-Engineers and Geologists
Project No.: LE15071

Infiltration Test Location Map

Plate A-2





Client/Project: SEPV/ Dixieland West Job No: LE15071

Test Hole No: P-1 Date/Time Excavated: 6/17/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak:
Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6.5	3.5	3	0.33
		1.00	6	3.25	2.75	0.36
		1.00	6.5	3.75	2.75	0.36
		1.00	6.5	4	2.5	0.40
		1.00	6.5	4	2.5	0.40
		1.00	6.5	4	2.5	0.40

Average Perc Rate Measured =

Last 3 readings

0.40 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.02 min/in



Client/Project: SEPV/ Dixieland West Job No: LE15071 Test Hole No: P-2 Date/Time Excavated: 6/17/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak: Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Pipe inner diameter (in)

3.75

Pipe outer diameter (in)

4.125

Hole Depth 2 ft Pea Gravel Porosity n 0.47 7 in Hole Dia.

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6	4	2	0.50
		1.00	7.5	5.5	2	0.50
		1.00	8.75	6.5	2.25	0.44
		1.00	6.5	4.5	2	0.50
		1.00	6	4	2	0.50
		1.00	6.25	4.25	2	0.50
					·	

Average Perc Rate Measured = Last 3 readings

0.50 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.27 min/in



Client/Project: SEPV/ Dixieland West Job No: LE15071

Test Hole No: P-3 Date/Time Excavated: 6/17/15
Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	7.5	5	2.5	0.40
		1.00	7.3	5	2.3	0.43
		1.00	6	3.75	2.25	0.44
		1.00	6.5	4.25	2.25	0.44
		1.00	6	3.75	2.25	0.44
		1.00	6	3.75	2.25	0.44
					·	

Average Perc Rate Measured = 0.44 min/in Last 3 readings

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.13 min/in



Client/Project: SEPV/ Dixieland West Job No: LE15071

Test Hole No: P-4 Date/Time Excavated: 6/17/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	7	4.75	2.25	0.44
		1.00	7.25	5.25	2	0.50
		1.00	6	4	2	0.50
		1.00	6	4.25	1.75	0.57
		1.00	6.5	4.75	1.75	0.57
		1.00	6	4.25	1.75	0.57
					·	

Average Perc Rate Measured = Last 3 readings 0.57 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.45 min/in



Client/Project: SEPV/ Dixieland West Job No: LE15071
Test Hole No: P-5 Date/Time Excavated: 6/17/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak:
Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 # Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Depth 2 ft Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	7	5	2	0.50
		1.00	6	4.25	1.75	0.57
		1.00	7.25	5.75	1.5	0.67
		1.00	6.5	5	1.5	0.67
		1.00	6	4.5	1.5	0.67
		1.00	6.5	5	1.5	0.67
					·	

Average Perc Rate Measured =

Last 3 readings

0.67 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.70 min/in



Client/Project:	SEPV/ Dixieland West	Job No:	LE15071	
Test Hole No:	P-6	Date/Time	Excavated:	6/17/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/17/2015 Presoak:
Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 # Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6	4	2	0.50
		1.00	7	5	2	0.50
		1.00	7	5	2	0.50
		1.00	6.5	4.75	1.75	0.57
		1.00	7	5.25	1.75	0.57
		1.00	6	4.25	1.75	0.57
					·	

Average Perc Rate Measured =

Last 3 readings

2 ft

Hole Depth

0.57 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.45 min/in

Infiltration Testing Report Stormwater Basins

SEPV Dixieland East Solar Farm

Brown Road north of Evan Hewes Hwy

Imperial County, California

Prepared for:

SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049





Prepared by:

Landmark Consultants, Inc. 780 N. 4th Street El Centro, CA 92243 (760) 337-1100

June 2015



June 25, 2015

780 N. 4th Street El Centro, CA 92243 (760) 370-3000 (760) 337-8900 fax

77-948 Wildcat Drive Palm Desert, CA 92211 (760) 360-0665 (760) 360-0521 fax

Mr. Freeman S. Hall SEPV Imperial, LLC 11726 San Vicente Blvd., Suite 414 Los Angeles, CA 90049

> Stormwater Basins Infiltration Testing Report SEPV Dixieland East Solar Farm Brown Road north of Evan Hewes Hwy Imperial County, California LCI Project No. LE15070

Dear Mr. Hall

Landmark Consultants, Inc. has completed the eight (8) infiltration tests for the SEPV Dixieland East solar power generation facility located along Brown Road north of Evan Hewes Highway approximately 5 miles west of Seeley, California. The infiltration testing has been requested to determine ability of the proposed stormwater basins to infiltrate stormwater.

Project Area

The 20-acre fenced-in project site is vacant, flat-lying with dry desert vegetation covering the site. The western portion of the site (west side of Brown Road) is vacant desert land. The eastern portion of the site (east side of Brown Road) is currently vacant land that had previously been used for farming/ranching.

Infiltration Testing Procedure

The rough grading plans indicate that there will be 1-foot deep stormwater basins covering a majority of the project site. A minimum access roadway width of 20 feet is provided between the stormwater basins and the perimeter of the site. The infiltration testing at the eight proposed stormwater basins consisted of drilling eight (8) 6-inch diameter hand auger borings to depths of 2 feet below ground surface at the specified location within each unit planned for solar generation facilities. The infiltration tests were conducted in conformance with California Test Method 750 (1986) - Method for Determining the Percolation Rate of Soils Using a 6-inch Diameter Test Hole.

Percolation tests were performed June 18, 2015 and June 19, 2015. The stormwater basin and approximate test locations were established by Fomotor Engineering and are shown on the Site and Exploration Plan (Plate A-2).

A staff engineer excavated the bore holes and maintained a log of the soil classification. Subsurface soils encountered during the field testing generally consisted of sands to silty sands with some areas of sandy silts.

Percolation Procedure Hole Preparation

After logging the soil, perforated PVC pipes were installed within each of the bore holes to allow for measurement of infiltration rates. Pipes were 4-inch diameter PVC (perforated) placed at 2 feet below ground surface (bgs). Prior to placing the pipe a 2-inch layer of 3/8" pea gravel was placed in the bottom of each hole. The perforated pipe was centered in the hole and an additional 6 inches of 3/8" pea gravel was added to the space between the pipe and the outside of the holes. The pea gravel was tested in our laboratory to determine correction factors for infiltration rate through the pea gravel.

Percolation Presoaking and Measurement Rate

Each test hole was presoaked with water for a minimum of 18 hours to 6 inches above the pea gravel inside the perforated pipes. Presoaking occurred to achieve soil saturation and to allow for swelling of expansive soils.

After the presoaking was complete, the water level was returned to 6 inches above the top of pea gravel within the perforated PVC pipe and timed to measure a 1-inch drop in water surface. This was repeated for a minimum of 6 readings.

Infiltration Analytical Results

The soils below the test locations consisted of predominantly silty sand (SM). The measured infiltration rates of the soils at the test locations are tabulated below:

Test No.	Location	Infiltration Rate
P-1	West side - West	0.64 min/in
P-2	West side - East	1.13 min/in
P-3	East side - Northwest	10.18 min/in (Silt)
P-4	East side - Northeast	2.04 min/in
P-5	East side – West -central	1.70 min/in
P-6	East side-East-central	2.04 min/in
P-7	East side - Southeast	17.82 min/in (Silt)
P-8	East side – Southwest	6.79 min/in

Infiltration rates were determined in uncompacted native soil. The measured infiltration rate is applicable for clear water sources and appropriate factors of safety should be used in applying the field measured rate to infiltration basin designs.

Closure

The opportunity to provide professional services for this project is appreciated. Please contact our office with any questions or comments.

CEG 2261

Respectfully Submitted,

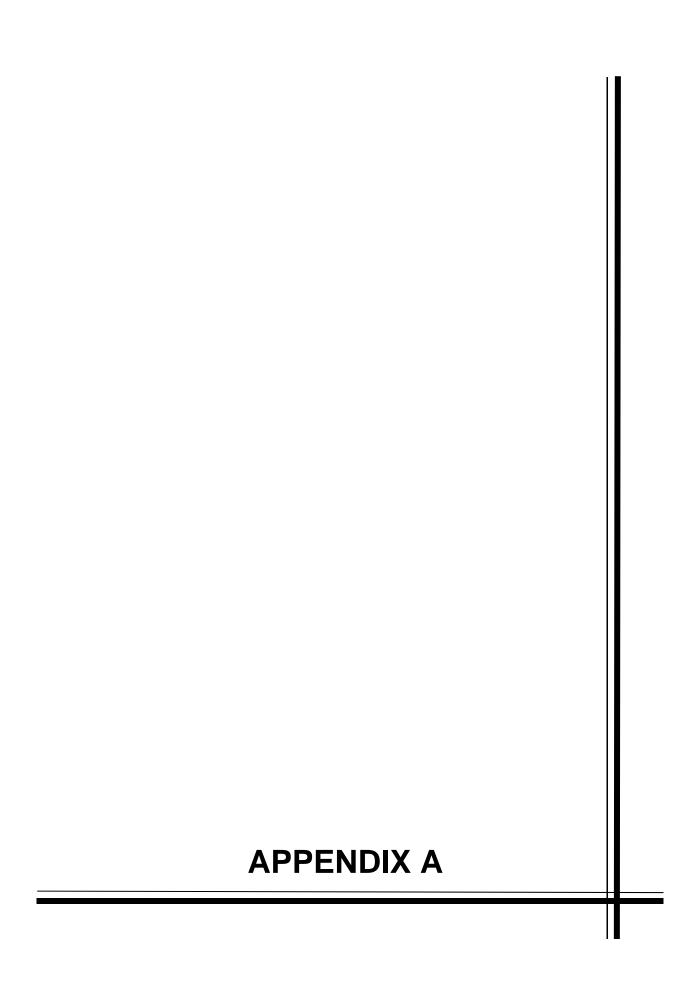
Landmark Consultants, Inc.

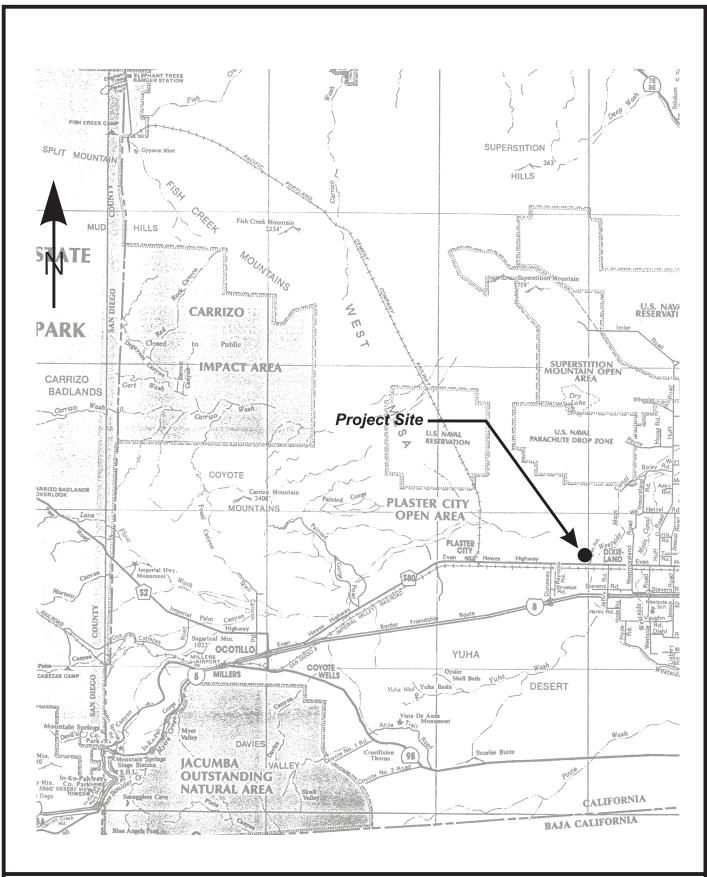
Steven K. Williams, PG, CEG Senior Engineering Geologist

Pete LaBrucherie, EIT Staff Engineer

Appendices

APPENDIX A: Vicinity and Site Maps APPENDIX B: Field Test Results

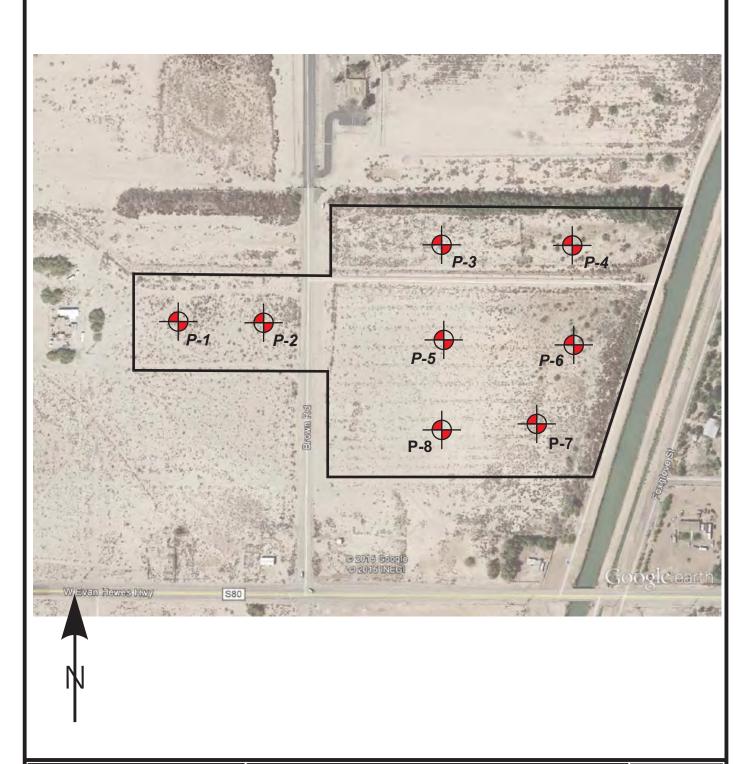




LANDMARK
Geo-Engineers and Geologists
Project No.: LE15070

Vicinity Map

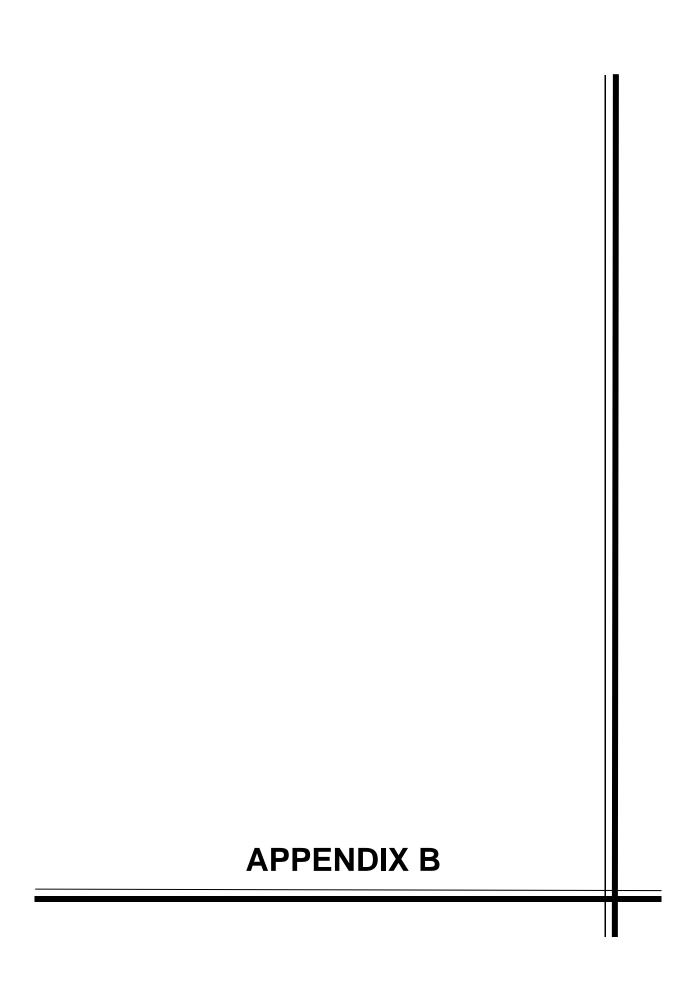
Plate A-1



Geo-Engineers and Geologists
Project No.: LE15070

Infiltration Test Location Map

Plate A-2





Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-1 Date/Time Excavated: 6/18/15

Depth of Test Hole: 2ft Soil Classification: Coarse Sand

Bag Sample Yes Date: 6/18/2015 Presoak:
Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6.25	1.75	4.5	0.22
		1.00	5.5	1.5	4	0.25
		1.00	6.5	2.5	4	0.25
		1.00	6	2	4	0.25
		1.00	6.5	2.5	4	0.25
		1.00	6.5	2.5	4	0.25
					·	

Average Perc Rate Measured = Last 3 readings 0.25 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 0.64 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-2 Date/Time Excavated: 6/18/15

Depth of Test Hole: 2ft Soil Classification: Coarse Sand

Bag Sample Yes Date: 6/18/2015 Presoak:
Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	7	4	3	0.33
		1.00	6.5	4	2.5	0.40
		1.00	6	3.5	2.5	0.40
		1.00	6	3.75	2.25	0.44
		1.00	6	3.75	2.25	0.44
		1.00	6.5	4.25	2.25	0.44
					·	

Average Perc Rate Measured = 0.44 min/in Last 3 readings

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.13 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-3 Date/Time Excavated: 6/18/15 Depth of Test Hole: 2ft Soil Classification: Sandy Silt

Bag Sample Yes Date: 6/18/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125 Hole Depth 2 ft

Pea Gravel Porosity n 0.47 Hole Dia. 7 in

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		25.00	10.3	3	7.3	3.42
		5.00	9	7	2	2.50
		5.00	7	5.75	1.25	4.00
		5.00	7	5.75	1.25	4.00
		5.00	6	4.75	1.25	4.00
		5.00	6	4.75	1.25	4.00
					·	

Average Perc Rate Measured = Last 3 readings

4.00 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 10.18 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-4 Date/Time Excavated: 6/18/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/18/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/18/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6	3.75	2.25	0.44
		1.00	6.75	4.75	2	0.50
		1.00	7	5.5	1.5	0.67
		1.00	6.5	5.25	1.25	0.80
		1.00	7	5.75	1.25	0.80
		1.00	6	4.75	1.25	0.80
					·	

Average Perc Rate Measured = Last 3 readings 0.80 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 2.04 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-5 Date/Time Excavated: 6/19/15
Depth of Test Hole: 2ft Soil Classification: Sand

Depth of Test Hole: 2ft Soil Classification: Sand
Bag Sample Yes Date: 6/19/2015 Presoak:

Actual Percolation Tested By:

Pete LaBrucherie

Date: 6/19/2015

Pete Soak.

6/19/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6	4	2	0.50
		1.00	6	4.25	1.75	0.57
		1.00	7	5.5	1.5	0.67
		1.00	6.5	5	1.5	0.67
		1.00	6	4.5	1.5	0.67
		1.00	7	5.5	1.5	0.67
					·	

Average Perc Rate Measured = Last 3 readings

0.67 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 1.70 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-6 Date/Time Excavated: 6/19/15

Depth of Test Hole: 2ft Soil Classification: Sand

Bag Sample Yes Date: 6/19/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/19/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		1.00	6	4.5	1.5	0.67
		1.00	6.25	5	1.25	0.80
		1.00	7	5.75	1.25	0.80
		1.00	6	4.75	1.25	0.80
		1.00	6	4.75	1.25	0.80
		1.00	6.25	5	1.25	0.80
					·	

Average Perc Rate Measured = Last 3 readings 0.80 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 2.04 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-7 Date/Time Excavated: 6/19/15
Depth of Test Hole: 2ft Soil Classification: Silty Sand

Bag Sample Yes Date: 6/19/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/19/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		5.00	6	5	1	5.00
		5.00	6.5	5.75	0.75	6.67
		7.00	6.5	5.5	1	7.00
		7.00	6	5	1	7.00
		7.00	6	5	1	7.00
		7.00	7	6	1	7.00
					·	

Average Perc Rate Measured =

Last 3 readings

7.00 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 17.82 min/in



Client/Project: SEPV/ Dixieland East Job No: LE15070

Test Hole No: P-8 Date/Time Excavated: 6/19/15
Depth of Test Hole: 2ft Soil Classification: Silty Sand

Bag Sample Yes Date: 6/19/2015 Presoak:

Actual Percolation Tested By: Pete LaBrucherie Date: 6/19/2015

Hole Depth 2 ft Pipe inner diameter (in) 3.75 Pipe outer diameter (in) 4.125

Hole Dia. Pea Gravel Porosity n 0.47

Start Time	End Time	Elapsed Time (min)	Initial Water Level (in)	Final Water Level (in)	Change in Water (in)	Perc Rate (min/in)
		10.00	12	6.5	5.5	1.82
		5.00	6.25	4	2.25	2.22
		5.00	8.75	6.75	2	2.50
		4.00	6.75	5.25	1.5	2.67
		4.00	6	4.5	1.5	2.67
		2.67	7	6	1	2.67
					·	

Average Perc Rate Measured =

Last 3 readings

2.67 min/in

Conversion Factor (K) 1.51 (Used to convert test hole diameter to an equivalent 12" hole)

Correction Factor C 0.59 (Includes pea gravel porosity and pipe inner and outer diameters)

Perc. Rate Calculated 6.79 min/in

RETENTION STORAGE VOLUME CALCULATIONS

REVISED BASIN STORAGE VOLUME CALCULATIONS (6-9-15)

DIXIELAND WEST SITE

SITE AREA = 40.0-ACRES = 1,740,259 SQ-FT CONSTRUCTION AREA LIMIT WITHIN SITE = 1,151,186 SQ-FT

COUNTY OF IMPERIAL STORAGE VOLUME REQUIREMENT = 3-INCHES= 0.25-FEET

(BASIN DRAINS WITHIN 72-HOURS)

REQUIRED STORAGE VOLUME = (1,151,186 SQ-FT) x (0.25 FT) = 287,797 CU-FT

BASIN 1A

MAXIMUM DEPTH = 18 INCHES (1.5 FT)

AVERAGE DEPTH = 9-INCHES (0.75 FT)

SURFACE AREA AT 1.5FT DEEP = 65,478 SQ-FT

STORAGE VOLUME (AT 1.5 FT. DEEP) = (65,478 SQ-FT) x (1.5 FT) = 98,217 CU-FT

SURFACE AREA AT 0 TO 1.5FT DEEP = 166,656 SQ-FT

STORAGE VOLUME AT 0 TO 1.5 FT. DEEP = (166,656 SQ-FT) x (0.75 FT) = 124,992 CU-FT

TOTAL BASIN 1A STORAGE VOLUME = 223,209 CU-FT

BASIN 1B

MAXIMUM DEPTH = 18 INCHES (1.5 FT)

AVERAGE DEPTH = 9-INCHES (0.75 FT)

SURFACE AREA = 254,697 SQ-FT STORAGE VOLUME = (254,697 SQ-FT) x (0.75 FT) = 191,023 CU-FT

TOTAL STORAGE PROVIDED = 414,232 CU-FT

BASIN MUST DRAIN WITHIN 72-HOURS TO STORE 3-INCHES OVER SITE:

SLOWEST PERC. TEST RESULT IS LOCATION P-5 AT 1.70-MIN/INCH (SEE PERC. TEST RESULTS IN REFERENCE MATERIALS):

1.70-MIN/INCH = 0.59 INCHES/MIN. 0.59-INCHES/MIN x (60-MIN/1-HOUR) = 35.3 –INCHES PER HOUR

WEST BASIN IS A MAX. OF 18-INCHES DEEP: 18-IN/72-HOURS = 0.25-IN/HR TO DRAIN WITHIN 72-HOURS.

FACTOR OF SAFETY IS: (35.3-IN/HR) / (0.25-IN/HR) = 141

DIXIELAND EAST SITE-EAST OF BROWN ROAD

SITE AREA = 20.6-ACRES = 898,544 SQ-FT CONSTRUCTION AREA LIMIT WITHIN SITE = 807,546 SQ-FT

COUNTY OF IMPERIAL STORAGE VOLUME REQUIREMENT = 3-INCHES= 0.25-FEET

(BASIN DRAINS WITHIN 72-HOURS)

REQUIRED STORAGE VOLUME = (807,546 SQ-FT) x (0.25 FT) = 201,887 CU-FT

BASIN 2

MAXIMUM DEPTH = 0.6 FT AVERAGE DEPTH = 0.30 FT TOTAL BASIN BOTTOM SURFACE AREA = 413,386 SQ-FT

SURFACE AREA AT 0.6 FT DEEP = 277,965 SQ-FT

STORAGE VOLUME (AT .06 FT. DEEP) = (277,965 SQ-FT) x (0.6 FT) = 166,779 CU-FT

SURFACE AREA AT 0 TO 0.6 FT DEEP = 135,421 SQ-FT STORAGE VOLUME AT 0 TO 0.6 FT. DEEP = (135,421 SQ-FT) x (0.30 FT) = 40,626 CU-FT TOTAL BASIN 2 STORAGE VOLUME = 207,405 CU-FT

BASIN MUST DRAIN WITHIN 72-HOURS TO STORE 3-INCHES OVER SITE:

SLOWEST PERC. TEST RESULT IS LOCATION P-7 AT 17.82-MIN/INCH (SEE PERC. TEST RESULTS IN REFERENCE MATERIALS): 17.82-MIN/INCH = 0.056 INCHES/MIN. 0.056-INCHES/MIN x (60-MIN/1-HOUR) = 3.37 –INCHES PER HOUR EAST (EAST OF) BASIN IS A MAX. OF 7.2-INCHES (0.6-FEET) DEEP:

FACTOR OF SAFETY IS: (3.37-IN/HR) / (0.10-IN/HR) = 34

7.2-IN/72-HOURS = 0.10-IN/HR TO DRAIN WITHIN 72-HOURS.

DIXIELAND EAST SITE WEST OF BROWN ROAD

SITE AREA = 4.7-ACRES = 204,561 SQ-FT CONSTRUCTION AREA LIMIT WITHIN SITE = 162,285 SQ-FT COUNTY OF IMPERIAL STORAGE VOLUME REQUIREMENT = 3-INCHES= 0.25-FEET (BASIN DRAINS WITHIN 72-HOURS)

REQUIRED STORAGE VOLUME = (162,285 SQ-FT) x (0.25 FT) = 40,571 CU-FT

BASIN 3

MAXIMUM DEPTH = 1.0 FT

AVERAGE DEPTH = 0.50 FT

SURFACE AREA AT 1.0FT DEEP = 19,846 SQ-FT

STORAGE VOLUME (AT 1.0 FT. DEEP) = (19,846 SQ-FT) x (1.0 FT) = 19,846 CU-FT

SURFACE AREA AT 0 TO 1.0FT DEEP = 74,017 SQ-FT

STORAGE VOLUME AT 0 TO 1.0 FT. DEEP = (74,017 SQ-FT) x (0.50 FT) = 37,009 CU-FT

TOTAL BASIN 3 STORAGE PROVIDED = 56,855 CU-FT

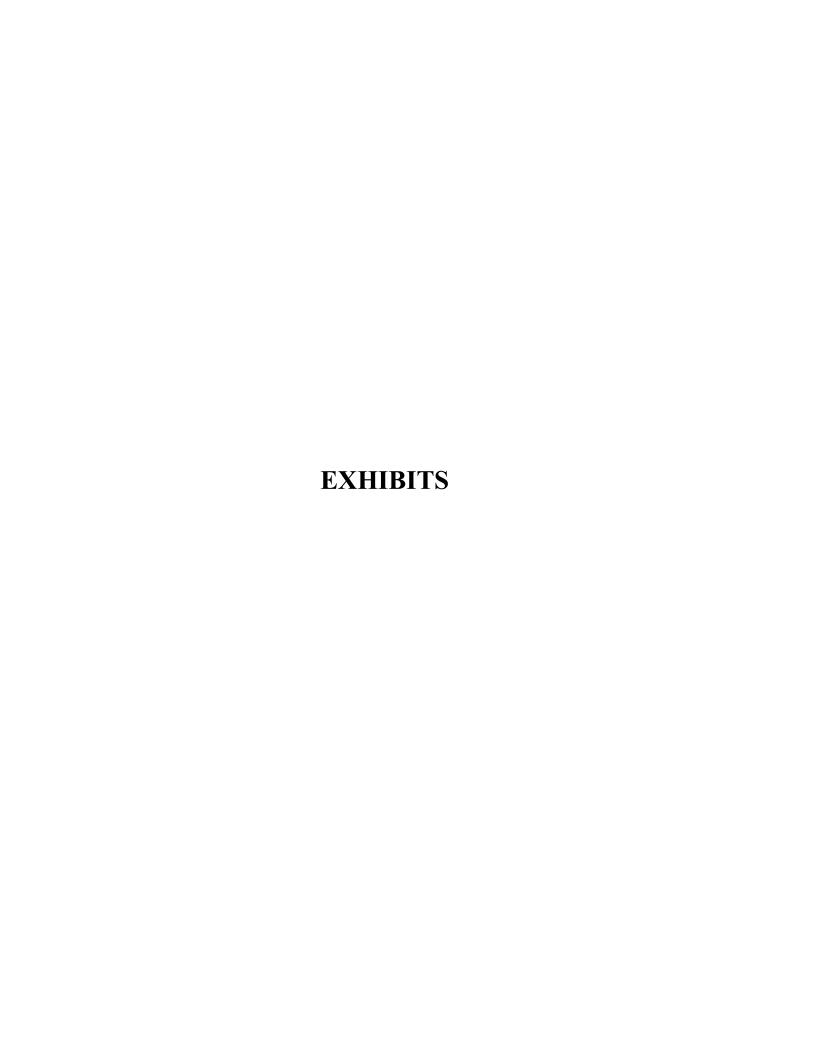
BASIN MUST DRAIN WITHIN 72-HOURS TO STORE 3-INCHES OVER SITE:

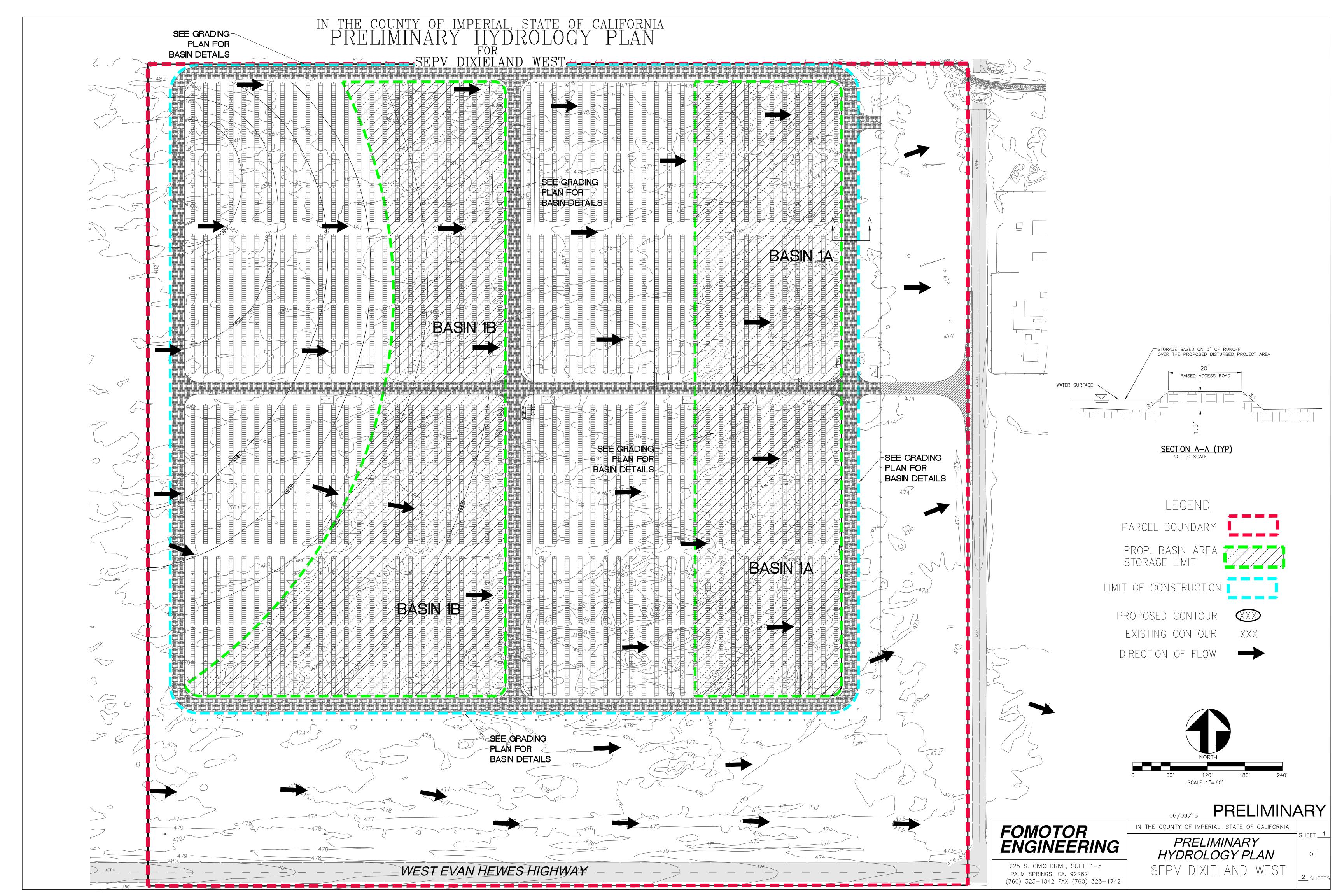
SLOWEST PERC. TEST RESULT IS LOCATION P-2 AT 1.13-MIN/INCH (SEE PERC. TEST RESULTS IN REFERENCE MATERIALS):

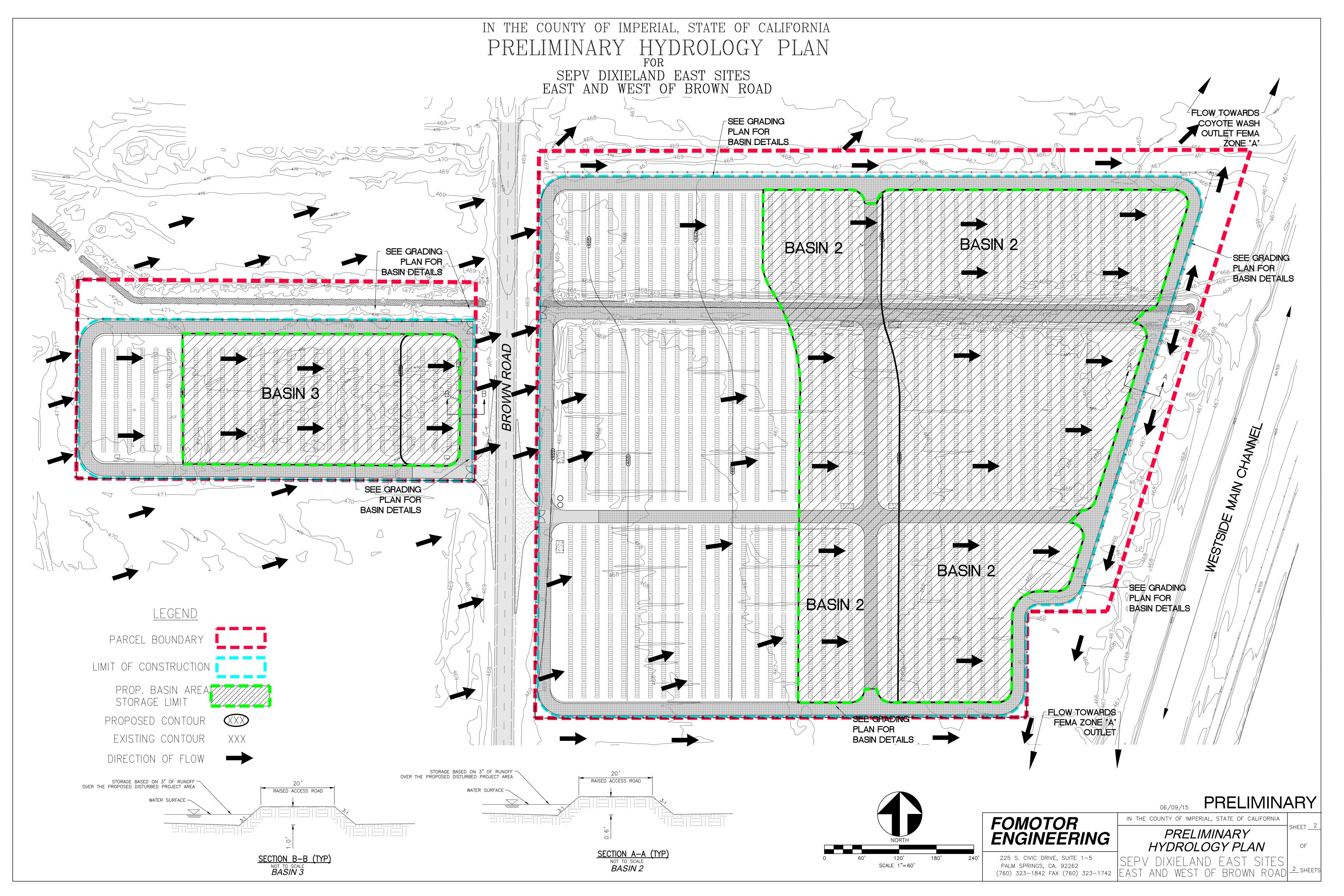
1.13-MIN/INCH = 0.88 INCHES/MIN. 0.88-INCHES/MIN x (60-MIN/1-HOUR) = 53.1 –INCHES PER HOUR

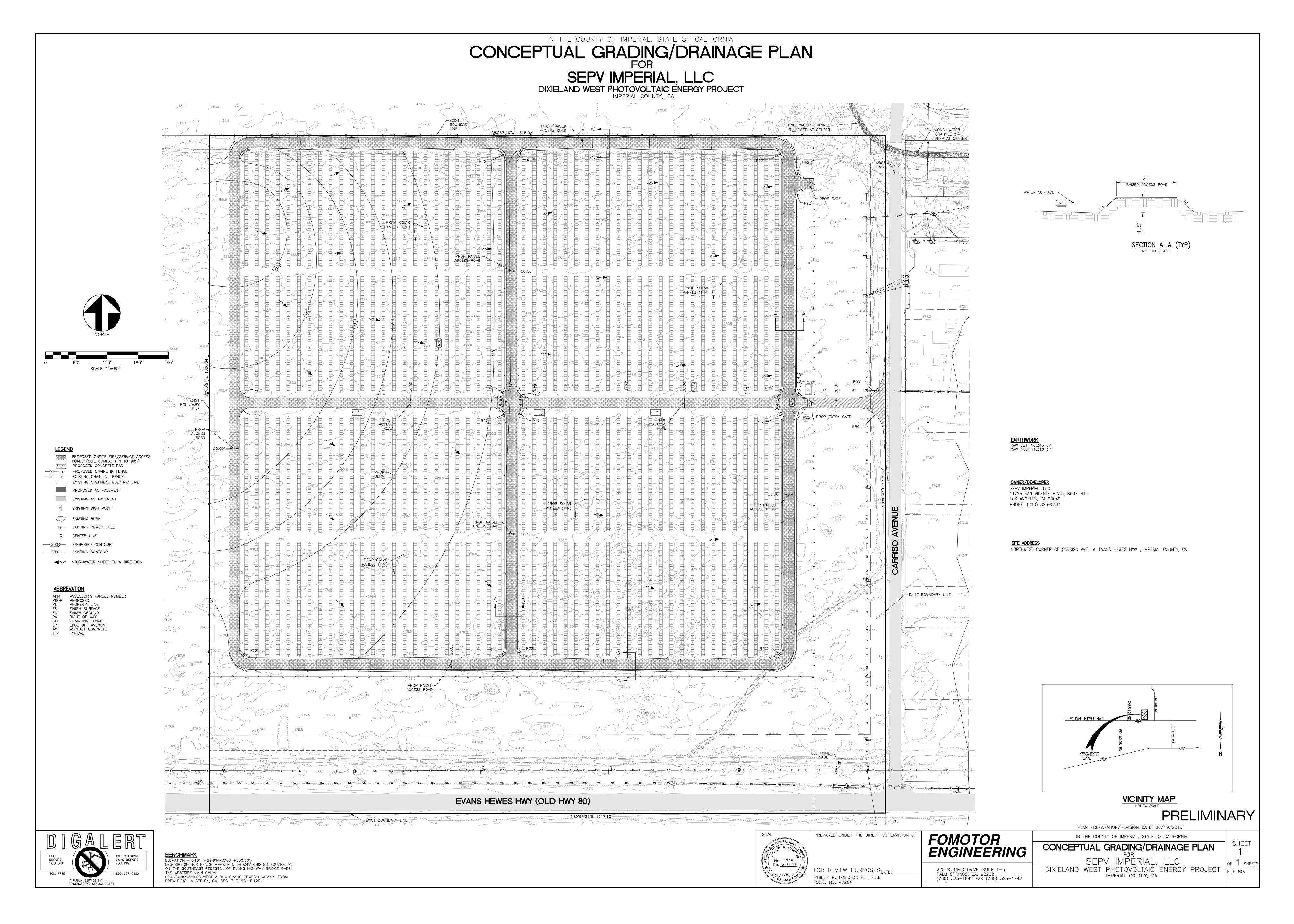
EAST (WEST OF) BASIN IS A MAX. OF 12-INCHES DEEP: 12-IN/72-HOURS = 0.167-IN/HR TO DRAIN WITHIN 72-HOURS.

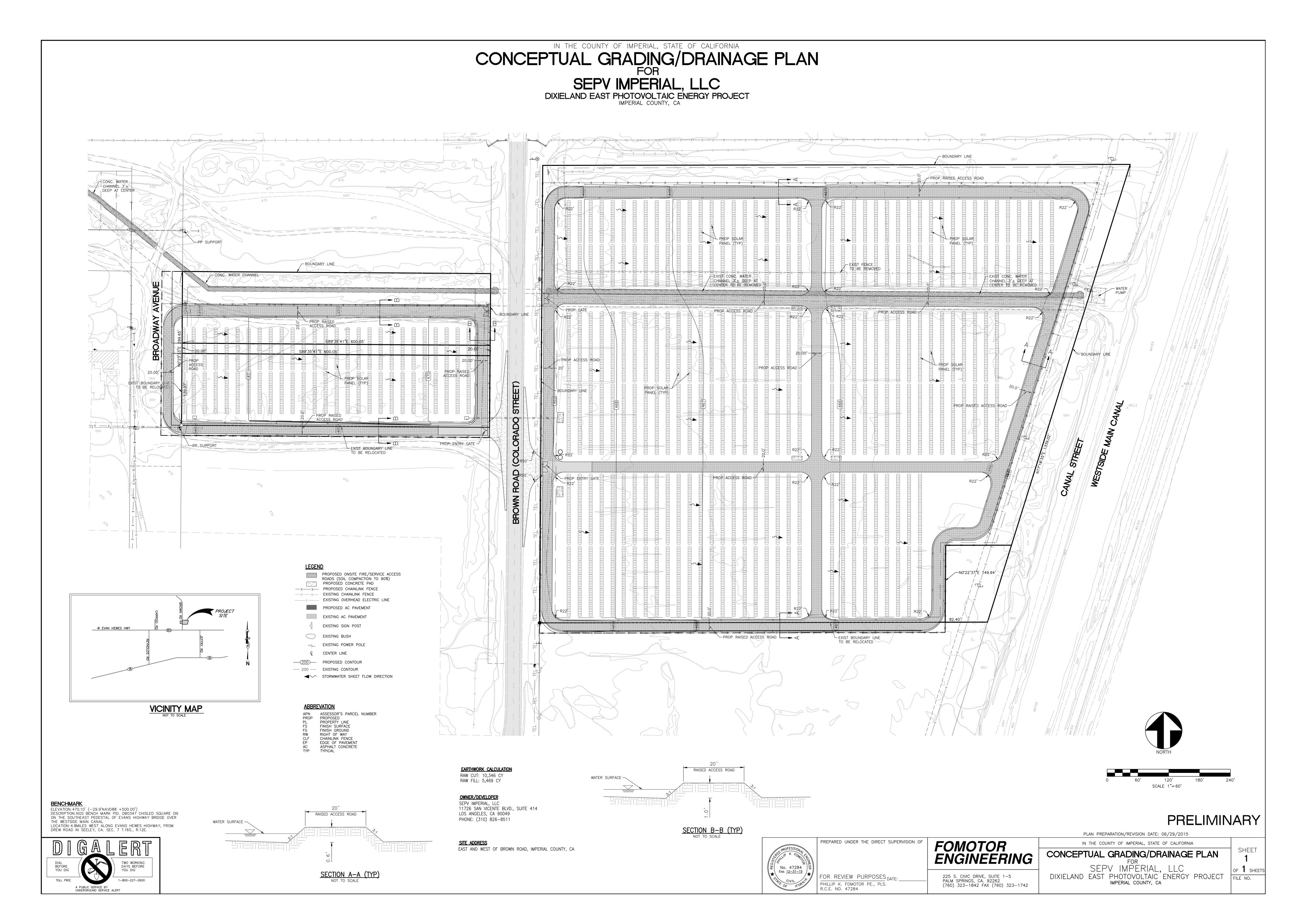
FACTOR OF SAFETY IS: (53.1-IN/HR) / (0.167-IN/HR) = 318













August 18, 2015

Dear Sharyn Del Rosario,

HDR evaluated potential impacts from construction noise associated with the SEPV Dixieland East and West Solar Farm Projects (Project) and this letter memo provides the results of the construction noise analysis. Operational noise is anticipated to be minimal from the Project since there will be no onsite substation and operation of the Project will be completed remotely. Maintenance of the Project would include a couple of people once or twice a year to clean the photovoltaic modules. Therefore, operational and maintenance noise is anticipated to be negligible from the Project and not evaluated further.

Regulatory Limits

The regulatory limits for the project include those prescribed via the Imperial County municipal code.

Imperial County

General Plan Noise Element and Municipal Code

Imperial County has adopted specific Noise/Land Use Compatibility Criteria in its Noise Element. The criteria provides levels of acceptable noise exposure based on the sensitivity of specific land uses via Imperial County Code, Title 9, Division 7: Noise Abatement and Control, section 90702.00 Sound Level Limits (Imperial County 1998). These limits are presented in Table 1. Depending on the ambient environment of a particular community, these basic guidelines may be tailored to reflect existing noise and land use characteristics.

Table 1. Imperial County Exterior Noise Standards

Land Use Zone	Time Period	Noise Level, L _{eq 1-hour}
R-1 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	45 dBA 50 dBA
R-2 Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
R-3, R-4, & other Residential	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	50 dBA 55 dBA
Commercial	Night (10 p.m. to 7 a.m.) Day (7 a.m. to 10 p.m.)	55 dBA 60 dBA
Manufacturing, other industrial, agricultural, and extraction industry	Anytime	70 dBA
Industrial	Anytime	75 dBA

Source: Imperial County Municipal Code Section 90702.00.

The Noise Element of the County's Genera Plan (Imperial County 1993) stipulates that the County's municipal code noise limits do not apply to construction activities.

Environmental Setting

Land uses surrounding the Project are mostly vacant desert land; however, there are a total of 31 residences located within one mile radius of the project areas. The nearest residence (a mobile home) is located approximately 175 feet from either of the project site boundaries where construction equipment would be used. Eight residences (four houses and four mobile homes) are located east of the Project across the Westside Main Canal with the closest construction noise approximately 350 feet from the nearest residence. Two residences are located approximately 350 feet south of the project area. The Imperial Lakes Water Ski Community is located west of DWSF. This development includes 20 residences (mobile homes). The eastern boundary of the Imperial Lakes Water Ski Community is approximately 1,500 feet from the DWSF western boundary. No residences are located immediately to the north.

All of the residences are located on tax lots (i.e., parcels) zoned A2 (Agricultural) except for the Imperial Lakes Water Ski Community which is zoned Recreational (F) under the conditions of the SPA, which allows for mobile homes. This zoning designation does not have a specific noise requirement but is assumed to be "other residential" in Table 1.

For the purposes of assigning noise level limits based on zones the limit for A2 is 70 dBA $L_{eq \, 1-hour}$ at all times and the limits for SPA are 55 dBA $L_{eq \, 1-hour}$ during the daytime and 50 dBA $L_{eq \, 1-hour}$ at night; however, these limits do not apply to construction noise. Construction of the Project would take place over the course of 36 weeks.

Construction Noise Impact Analysis

Construction of the project would be conducted during daytime hours only and in compliance with the County's noise ordinance. Construction noise, although temporary, can be a source of concern for sensitive receptors, such as nearby residences. Heavy equipment will be used to construct the project and may be periodically audible at offsite locations. Received sound levels will fluctuate, depending on the construction activity, equipment type, and distance between noise source and receiver.

The variation in power and usage imposes complexity in characterizing construction noise levels. Expected equipment types for each phase of construction are presented in Table 2 and were used to screen for potential construction noise impacts. The estimated composite site noise level is based on the assumption that all equipment would operate at a given usage load factor, for a given hour, to calculate the composite average daytime hourly $L_{\rm eq}$. The load factor accounts for the fraction of time that the equipment is in use over the specified time period. The composite noise level from several pieces of equipment operating is obtained from decibel addition of the $L_{\rm eq}$ of each individual unit. Although it is not possible for all the construction equipment to operate at one point simultaneously, the screening level analysis conservatively assumes that this is the case.

Table 2. Construction Equipment Noise Levels

Equipment	Noise Level, L _{max} at 50 feet	Composite Noise Level (L _{eq 1-hour}) at 50 feet
Vibratory Post driver	85	
Crawler/Tractor/Dozer	82	
Dump, Concrete, Tender Truck	79	
Forklift/aerial lift/boom	81	
Generator/Compressor	81	
Grader/Scraper	85	87
Roller/Compactor	80	
Tractor/Loader/Backhoe	79	
Vibratory Plate (handheld)	83	
Flatbed Truck	74	
Water Truck	79	

Source: Federal Highway Administration Roadway Construction Noise Model, FHWA 2006.

Construction sound will attenuate with increased distance from the sound sources. Composite $L_{eq\ 1-hour}$ sound levels at distances out to a distance of 1,000 feet were calculated assuming spherical free-field spreading, see Table 3. Other factors, such as vegetation, ground effects, terrain and obstacles, such as buildings, will act to limit the impact of construction noise levels, but were not considered in the evaluation. Actual received sound levels will fluctuate, depending on the construction activity, equipment type, and separation distances between source and receiver. As a general construction practice, functional mufflers will be maintained on all equipment to maintain noise levels as low as reasonably achievable.

Table 3. Construction Noise Levels at Distance

Distance from Project Construction (feet)	Noise Level, L _{eq 1-hour} at 50 feet
175*	73
200	71
300**	66
400	63
500	60
600	58
700	57
800	55
900	54
1000	52

Notes: * Distance to nearest sensitive receptor. **Distance to second closest sensitive receptor.

Conclusions

Construction noise from the Project was analyzed at the nearest sensitive receptors. Although the County's noise limits do not apply to construction noise, they do provide some context against which conclusions can be drawn. For the nearest sensitive receptors, the highest

construction noise levels would be experienced when construction is nearest, identified as the mobile home residence located 175 feet east of the DESF site. At this distance the received sound level would be 73 dBA $L_{eq\ 1-hour}$; however, this sound level would only be experienced for a day or two at most since the construction is not stationary and will move throughout the Project area. The sound level calculated at the Project centroid would be considered an average for the duration of construction and would be approximately 1,300 feet from the nearest residential area. At this distance the received sound level would be 49 dBA $L_{eq\ 1-hour}$. Because construction would be restricted to daytime hours over a period of 36 weeks for the entire project, the use of muffled equipment shall be kept in good working order, and would not exceed applicable regulatory limits. The associated construction noise impacts would be considered less than significant.

Sincerely, HDR

Scott Noel, AICP GISP INCE

Sr. Acoustics Specialist

Scall Park

Equipment		Variable (enter below) 50'		Composite Sound Level (L _{eq}) at Distance ³										
				Nearest Residence @ 402 W Cocupa Ave., Seeley, CA 92273 SEELEY CA, 92273-0000			Residences East of Dixie Canal			Closest Residence at Imperial Lakes Development				
Туре	Quantity	L _{max} @ 50	17	5		Closest (175')	East Centroid (1300')	West Centroid (1300')	Closest (460')	East Centroid (1000')	West Centroid (3600')	Closest (1680')	East Centroid (5000')	West Centroid (3400')
Vibratory Post driver	1	85	64											
Crawler/Tractor/Dozer	1	82	64											
Dump, Concrete, Tender Truck	1	79	61		l							1		
Forlift/aerial lift/boom	1	81	59											
Generator/Compressor	1	81	64											
Grader/Scraper	1	85	67	73	87	73	49	49	61	52	38	47	34	38
Roller/Compactor	1	80	59											
Tractor/Loader/Backhoe	1	79	61											
Vibratory Plate (handheld)	1	83	62						'					
Flatbed Truck	1	74	56											
Water Truck	1	79	61											

Source

Estimated sound levels at sensitive receptor locations.

Filename:

Engr:

NOISE SENSITIVE LOCATION:

Α

OPERATION ⁷	RCNM <u>Equipment</u>	Number of Equipment	Ref <u>Dist</u>	EL ¹ <u>Lmax</u>	UF ² percent	Total Dist ³ <u>feet</u>	Soft Dist ⁴ <u>feet</u>	3arrier/Terrain Sheilding	Ground ⁶ <u>Effects</u>	Lmax <u>dBA</u>		Leq <u>dBA</u>	
Vibratory Post driver		1	50	85	20	175	175		-3.6	70.5	11292211.5	63.5	2258442.29
Crawler/Tractor/Dozer	Dozer	1	50	82	40	175	175		-3.6	67.5	5659512.2	63.5	2263804.89
Dump, Concrete, Tender Truck	Concrete Mixer Truck	1	50	79	40	175	175		-3.6	64.5	2836475.3	60.5	1134590.11
Forlift/aerial lift/boom	Crane	1	50	81	16	175	175		-3.6	66.5	4495510.4	58.6	719281.656
Generator/Compressor	Generator	1	50	81	50	175	175		-3.6	66.5	4495510.4	63.5	2247755.18
Grader/Scraper	Grader	1	50	85	40	175	175		-3.6	70.5	11292211.5	66.5	4516884.58
Roller/Compactor	Roller	1	50	80	20	175	175		-3.6	65.5	3570910.8	58.5	714182.16
Tractor/Loader/Backhoe	Front End Loader	1	50	79	40	175	175		-3.6	64.5	2836475.3	60.5	1134590.11
Vibratory Plate (handheld)	Compactor (ground)	1	50	83	20	175	175		-3.6	68.5	7124903.8	61.5	1424980.75
Flatbed Truck	Flat Bed Truck	1	50	74	40	175	175		-3.6	59.5	896972.2	55.5	358788.896
Water Truck	Concrete Mixer Truck	1	50	79	40	175	175		-3.6	64.5	2836475.3	60.5	1134590.11

Total Project Operational Sound Level:

77.6 57337168.4

72.5 17907890.7

1.0 17907891.7

EL, Measured Lmax @ given reference distance.

- 2. UF, Percenatge of time noise source is operating (for 1-hour Leq calculation).
- 3. Distance factor determined by the inverse square law defined as 6 dBA per doubling of distance as sound travels away from an idealized point.
- 4. Unpaved of soft ground distance from source to receptor (per FTA/FHWA guidance manual).
- 5. Topographic effects calculated per Maekawa (FHWA method) for sheilding by berm or barrier (only where appropriate).
- 6. Ground effects were calculated using FTA and FHWA Construction Noise Assessment Guidelines.
- 7. Equipment from Table 8 of Air Emissions and Greenhouse Gas Analysis.

Equipment Description	Impact Device?	Acoustical Usage Factor (%)	Spec. 721.560 L _{max} @ 50 feet (dBA, slow)	Actual Measured L _{max} @ 50 feet (dBA, slow) (Samples Averaged)	Number of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	N/A	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	N/A	0
	Yes	N/A	94	N/A	0
Blasting			-		
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	N/A	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS Signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	N/A	0
Grapple (on backhoe)	No	40	85	87	
					1
Horizontal Boring Hydraulic Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	N/A	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe	Yes	20	90	90	212
Pavement Scarifier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No		82		3
		100		73	
Rivit Buster/Chipping Gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (single nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Sheers (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	N/A	0
Tractor	No	40	84	N/A	0
Vacuum Excavator (Vac-Truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12

Traffic Assessment for:

Project No. 1 – SEPV Dixieland East 2MW Solar Photovoltaic Electricity Generating Facility

Project No. 2 - SEPV Dixieland West 3MW Solar Photovoltaic Electricity Generating Facility

Imperial County, California

July 24, 2015

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Job Number PA15005







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1. INTRODUCTION

This report was prepared to assess the project trip generation for the following two independent projects:

- Project No. 1 SEPV Dixieland East 2MW Solar Photovoltaic Electricity Generating Facility
- Project No. 2 SEPV Dixieland West 3MW Solar Photovoltaic Electricity Generating Facility

The projects will be shown to have negligible trip generation upon completion of the construction phase of the projects. The projects will generation the most traffic during construction. Since these project are in close proximity to one another, and since the project construction schedules will overlap, the traffic assessment for both projects is being provided in a single document.

This report will develop a trip generation forecast for the projects and determine if a formal traffic study is required under Imperial County CMP guidelines.

2. PROJECT DESCRIPTIONS

The proposed projects are located approximately 5 miles west of the community of Seeley, near the Westside Main canal. It is anticipated that most trips will have origins and destinations from El Centro and those trips will utilize S80/West Evan Hewes Highway (a county roadway) to access the project site. Figure 1 shows the location of the SEPV Dixieland East Project. Figure 2 shows the location of the SEPV Dixieland West Project.

2.1 SEPV Dixieland East Project Description

SEPV Imperial, LLC is seeking to construct and operate a 2MWac, solar photovoltaic ("PV") electricity generating facility called SEPV Dixieland East on an approximately 24-acre site located north of Potrero Avenue along Brown Road and in an unincorporated area of Imperial County known as Dixieland. The site is approximately 5 miles west of the community of Seeley, south of the Centinela State Prison and east of the Dixieland Substation. The site is to the west of the Westside Main canal.

The project will utilize solar photovoltaic ("PV") modules mounted on single-axis sun tracking support structures to generate 2 megawatts (MWac) of renewable electrical energy. The project fence line will be located approximately 400 feet north S80/West Evan Hewes Highway to minimize any visual impacts.

Figure 3 shows the SEPV Dixieland East Project site plan.

GEORGE DUNN ENGINEERING

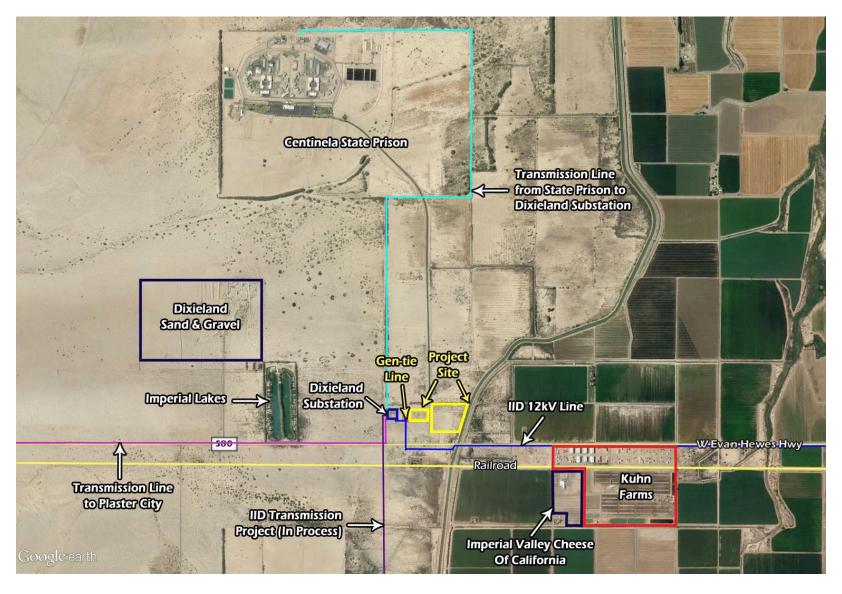


FIGURE 1 – SEPV DIXIELAND EAST PROJECT LOCATION

Traffic Assessment for the Proposed (EPV Dixieland East West Prepared for SEPV Imperial, LLC

GEORGE DUNN ENGINEERING

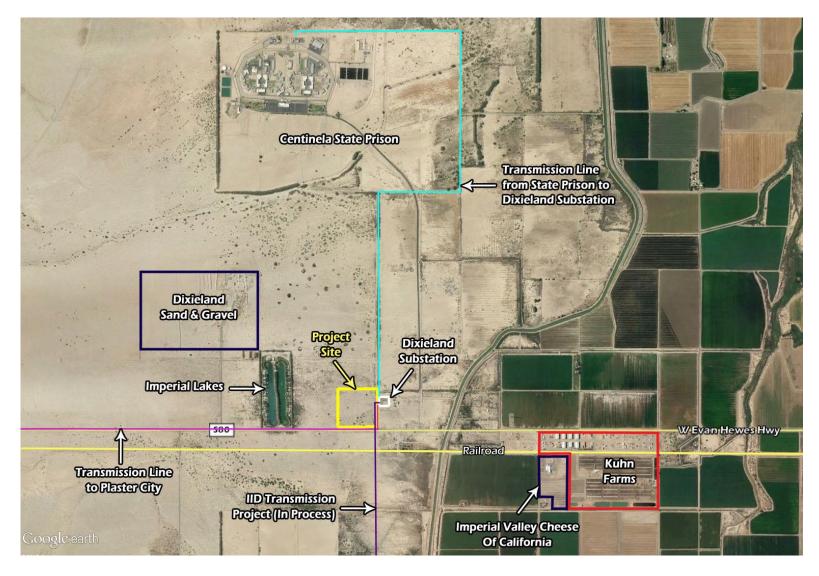


FIGURE 2 – SEPV DIXIELAND WEST PROJECT LOCATION

 $\label{thm:continuous} Traffic Assessment for the Proposed \textit{(EPV Dixieland East West Prepared for SEPV Imperial, LLC)}$



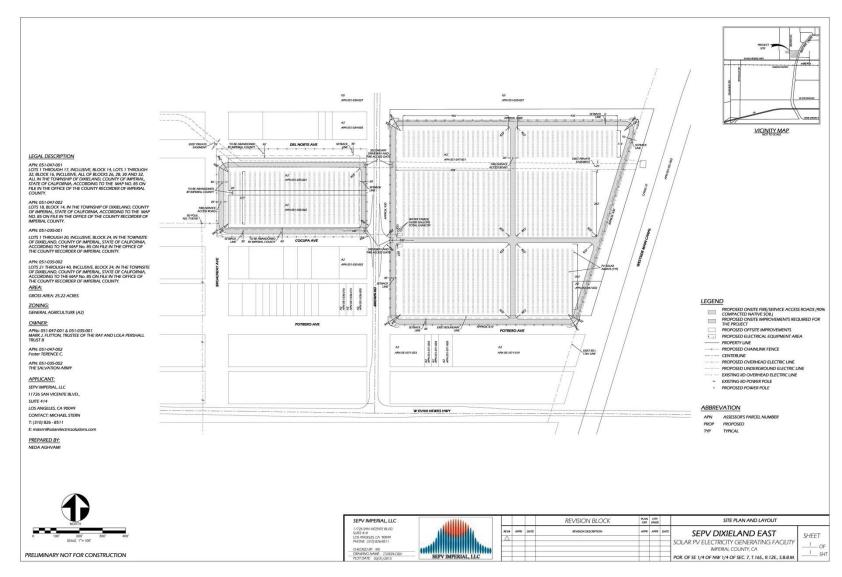


FIGURE 3- SEPV DIXIELAND EAST PROJECT SITE PLAN



2.2 SEPV Dixieland West Project Description

SEPV Imperial, LLC is seeking to construct and operate a 3MWac, solar photovoltaic ("PV") electricity generating facility called SEPV Dixieland West on an approximately 29-acre site located at the northwest corner of West Evan Hews Hwy and Carriso Avenue in an unincorporated area of Imperial County known as Dixieland. The site is approximately 5 miles west of the community of Seeley, and is to the west of the Westside Main canal.

The project will utilize solar photovoltaic ("PV") modules mounted on single-axis sun tracking support structures to generate 3 megawatts (MWac) of renewable electrical energy. The project fence line and the project components will be set back at least 240 feet from Evan Hewes highway to minimize visual impacts.

Figure 4 shows the SEPV Dixieland West Project site plan.

3. FORECAST PROJECT TRIP GENERATION

Since there are no specific land used in the ITE Trip Generation manual, trip generation for the construction and operational phases of the project were developed as outlined below.

3.1 Construction

3.1.1 Construction Phasing and Duration

A PV solar energy based electricity generating facility is highly modular and as such, is very straightforward to construct. The construction activities for the project generally fall into three main phases: (1) site preparation; (2) system installation; and (3) facility commissioning.

SEPV Dixieland East Project Schedule

The entire process is estimated to take up to 22 weeks. Construction is anticipated to begin in early 2016, with operations beginning in mid-2016. Construction would primarily occur during daylight hours, Monday through Saturday.

SEPV Dixieland West Project Schedule

The entire process is estimated to take up to 26 weeks. Construction is anticipated to begin in early 2016, with operations beginning in mid-2016. Construction would primarily occur during daylight hours, Monday through Saturday.



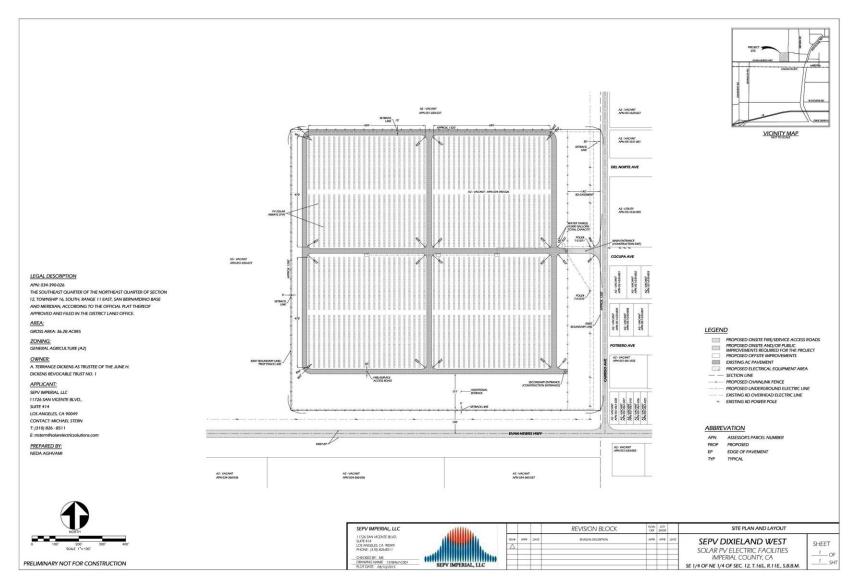


FIGURE 4-SEPV DIXIELAND WEST PROJECT SITE PLAN



3.1.2 Construction Workforce Estimates for the Projects

SEPV Dixieland East

The on-site construction workforce for the project is expected to peak (overlapping construction activities) at 30 individuals. It is anticipated that the construction workforce would commute to the site each day from local communities. The worker vehicle trips anticipated to be generated from the project assumes 20 employees that would commute alone, and 10 employees that would carpool. Additionally, construction activity trips would include several trucks arriving and departing the site each day to deliver materials, including water for dust suppression, supplies, and equipment.

Coordination with sister project Dixieland West will provide logistical synergies which will serve to reduce impacts associated with traffic, dust, and noise.

SEPV Dixieland West

The on-site construction workforce for the project is expected to peak (overlapping construction activities) at 30 individuals. It is anticipated that the construction workforce would commute to the site each day from local communities. The worker vehicle trips anticipated to be generated from the project assumes 20 employees that would commute alone, and 10 employees that would carpool. Additionally, construction activity trips would include several trucks arriving and departing the site each day to deliver materials, including water for dust suppression, supplies, and equipment.

Combined Project Peak Construction

The projects will be constructed on a serial basis, meaning the time from construction start to finish will be 36 weeks. The SEPV Dixieland East Project will take 22 weeks to construct and the SEPV Dixieland West Project will take 26 weeks to complete. Peak construction times for each individual project is not expected to occur at the same time.

The maximum number of employees working on the two solar project at one time will be 40 employees. For purposes of the trip generation calculations, it is assumed that 28 employees will drive alone and 12 employees will arrive in two-person carpools.

3.1.3 Construction Truck Trip Estimates for the Projects

The SEPV Dixieland East Project will require 120 truck trips over the course of the project, with a maximum of 8 trucks per day. The SEPV Dixieland West Project will require 180 truck trips over the course of the project, with a maximum of 12 trucks per day. The total number of trucks over the 36-week overlapping construction period for the two project will be 300. The maximum number of daily truck trips generated by construction will be 20, assuming each project generated its maximum number of truck trips on a specific day, which is a worst case scenario that is not anticipated.



The truck trip calculations below account for the heavier vehicles types such as trucks by converting truck trips to "passenger car equivalents". A rate of 2.2 passenger car equivalents (PCEs) per truck trip was used in this analysis. This conversation rate falls within the guidelines set for in the *Highway Capacity Manual*.

Construction of the project will require the periodic use and installation of heavy equipment and associated systems at various times within each construction phase. Heavy equipment will not be hauled to/from the project sites daily; it will be hauled in at the beginning of construction and hauled out upon completion of construction.

3.1.4 Peak Hour Trip Generation Forecast

For purposes of forecasting future peak hour trip generation, it is assumed that the majority of the daily project trips will occur during daylight hours.

It is assumed that each employee arrives prior to the start of the work shift and departs just after the work shift. It is also assumed that truck trips will occur randomly during daylight hours, Monday through Saturday. Based on these assumptions, daily and peak hour trip generation calculations are provided below.

3.1.5 Employee Trips

It is estimated that the maximum number of employees working on the SEPV Dixieland East and West projects at one time will be 40 employees.

• 28 employees will drive alone and 12 employees will carpool (2 to vehicle) = 34 inbound trips in the AM and 34 outbound trips in the PM

Due to the remote project location, employees would be expected to stay on-site during the lunch period.

• Total trips = 34 * 2 = 68 daily employee trips

3.1.6 Truck Trips

The maximum number of daily truck trips generated by construction will be 20, assuming each project generated its maximum number of truck trips on a specific day. These trips will likely occur randomly during the work day.

- 20 daily two-way truck trips = 40 one-way truck trips at a PCE of 2.2 = 88 PCE one-way truck trips per day.
- 88 PCE truck trips / 8-hour days = 11 PCE one-way truck trips during the AM peak hour and 11 PCE one-way truck trips during the PM peak hour.



3.1.7 Additional Work Related Trips

For the purposes of forecasting, it is assumed that other trips associated with the activities of supervisors, inspectors and vendors would be equal to 20% of the employee trips and would occur randomly over the work day.

68 daily employee trips x 0.20 = 14 ancillary trips (PCEs) daily trips

Table 1 shows the forecast traffic generation expected from the project based on the information provided by the project proponent.

Table 1 - Project Traffic Generation

Land Use	Daily	AM	Peak Ho	our	PM Peak Hour			
		Total	In	Out	Total	In	Out	
Employee Trips*	68	34	34	0	34	0	34	
Truck Trips (PCEs)	88	П	6	5	П	5	6	
Ancillary Trips	14	2	I	I	2	I	I	
NET Project Trips (PCEs)	148	47	41	6	47	6	41	

During the peak of projects construction, the project sites will generate a total of 148 trips (PCEs) daily, including 47 trips (PCEs) during the traditional AM peak hour and 47 trips (PCEs) during the traditional PM peak hours on the adjacent roadways.

4. FACILITY OPERATIONS AFTER CONSTRUCTION

Once the facilities are operational, they will be operated and monitored remotely. Each facility will employ up to three (3) individuals on a part-time basis to provide maintenance, repair, and other services required to ensure the facility continues generating energy over its lifetime. These workers will not be on site on a daily basis, but only as-needed for panel washing and maintenance and repair activities.

5. ROADWAY CAPACITY ANALYSIS

The type of traffic analysis required for this project is based on the Imperial County traffic study guidelines since the project access will be provided by S80/West Evan Hewes Highway, Dunaway Road and Interstate 8.

West Evan Hewes Highway has a classification of Prime Arterial in the Imperial County Circulation and Scenic Highway Element Plan. This roadway is currently constructed as a two (2) lane un-divided roadway. Based on Imperial County guidelines, this roadway has a Level of Service (LOS) C capacity of 7,100 vehicles per day. Level of Service C is considered a good level of service.



<u>Dunaway Road</u> in the project vicinity has a classification of Major Collector in the Imperial County Circulation and Scenic Highway Element Plan. Dunaway Road provided the nearest I-8 Freeway interchange to the SEPV Dixieland project sites. This roadway is currently constructed as a two (2) lane un-divided roadway. Based on Imperial County guidelines, this roadway has a Level of Service (LOS) C capacity of 7,100 vehicles per day.

<u>Interstate 8</u> is constructed as a four-lane divided interstate highway in the project vicinity with two lanes in each direction. A four-lane freeway has a LOS C capacity of about 60,000 vehicles per day.

Traffic volumes in this area were documented in the Final Environmental Impact Report/Environmental Assessment (Final EIR/EA) for the proposed Imperial Solar Energy Center West project, July 2011. This project is currently under construction and will likely be completed before the SEPV Dixieland project begin construction. The Imperial Solar Energy Center West project is located approximately 1.5 miles southwest of the proposed SEPV Dixieland East and West projects.

Figure 5 shows the Year 2010 traffic volumes used in assessment of construction impacts for the Imperial Solar Energy West Project. The volumes in boxed are forecast Year 2015 volumes that were developed by factoring Year 2010 volumes from the EIR by increasing for five years by a growth factor of 2.8 percent per year. That same growth rate was used in the approved Final Imperial Solar Energy Center West EIR.

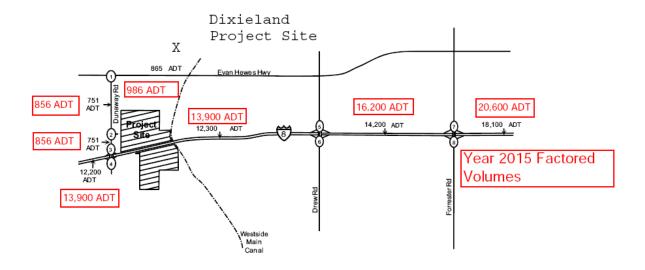


FIGURE 5 – AREA TRAFFIC VOLUMES (FORECAST YEAR 2015)

Note: The striped "Project Site" in Figure 5 is the location of the Imperial Solar Energy West project.



The figure shows that traffic on both Evan Hewes Highway and Dunaway Road is less than 1,000 vehicles per day. Well below the roadway LOS C capacity of 3,100 vehicles per day. Interstate 8 volumes are also well below LOS C capacity.

Imperial County Guidelines state that a full traffic study, based on trip generation, is required for:

- 1. Any project that adds more than 8% of the total existing vehicle trips on the adjacent road system at full build-out of the project.
- 2. Any project that generates more than 400 daily residential trip ends, 800 commercial or industrial trip ends, or 200 peak hour trip ends as determined by the average trip rates contained in the ITE Trip Generation Informational Report.

6. CONCLUSIONS

Both the SEPV Dixieland East and SEPV Dixieland West Project are located in remote areas that do not have congested roadways. Once the projects are completed, they will only intermittently generate a few trips per day.

The only time that projects will generate any noticeable traffic is during the 36-week construction period. The construction phase of the project is forecast to generate less than 100 peak hour trips (PCEs) and 148 daily trips (PCEs).

Since the daily volumes (ADT's) on Evan Hewes Highway and Dunaway Road are so low, it is possible that one of these two roadway segments could see an increase of daily trips by more than 8%, depending on how trip paths to and from the project are distributed and how the project is actually staffed and scheduled. Most trips would have origins and destinations to/from the El Centro area to the east. Some trips would use Evan Hewes Highway to travel east while others would use Evan Hewes Highway to travel west to Dunaway Road to access Interstate 8.

Adding 148 daily trips (worst case scenario) on any of the Evan Hewes Highway/Dunaway Road segments, however, would not degrade existing levels of service since both roadways are lightly used and traffic volumes, even during construction of the SEPV Dixieland Projects, would be well below the capacities of the roadways.

No capacity-related traffic impacts are anticipated as a result of either the construction phase or build-out and operation of the SEPV Dixieland East and West projects.

Site Restoration Plan SEPV Dixieland East and SEPV Dixieland West August 20, 2015

Purpose

SEPV Imperial, LLC ("Applicant") submits this Site Restoration Plan to comply with Imperial County requirements prior to approval and issuance of a Conditional Use Permit for the solar energy facilities known as SEPV Dixieland East and SEPV Dixieland West ("Project").

Baseline Soils/ Current Site Conditions

The project site is surrounded by relatively undeveloped, moderately disturbed desert scrubland. The site itself is a vacant, flat-lying area. Refer to Appendix A for site maps.

SEPV Dixieland East

Silty sand (SM) soils cover the project site to a depth of 4 to 6 feet. Silty clay (CL) and clay (CH) soils are encountered below the surficial sands.

The dominant habitat types consist of creosote scrub, ruderal habitat, and Tamarix thicket. None of the aforementioned habitat communities are considered sensitive. The SEPV Dixieland East has not been used for agricultural or livestock grazing activities in over 20 years.

SEPV Dixieland West

Silty sand (SM) soils cover the SEPV Dixieland West project site to a depth of 50 feet. A 4-foot thick silty clay (CL) layer occurs at a depth of 4 feet on the south side of the site and at a depth of 9 feet in the northeast corner. Subsurface soils consist of silty sands (SM) and silts (ML).

The dominate habitat types consist of creosote scrub and mesquite, neither are considered sensitive. SEPV Dixieland West has no history of agricultural or livestock grazing activities.

Removal and Restoration Activities

The site restoration plan described herein will commence upon the earlier of the permanent cessation of all operational activities on the Project sites or the expiration or termination of the Projects' Conditional Use Permit(s). All materials, components, and equipment removed from the Project site will disposed of at the nearest approved/certified landfill or recycling facility, whichever is closer and has the least cost impact to the project. Project entrance driveways, internal access roads and retention basins will remain in place. Appendix B describes and itemizes the estimated costs (2015 Dollars) for the restoration of the Project sites.

Removal of Electrical Components

Electronic or Potentially Hazardous Waste

Electronic or potentially hazardous waste such as meters, motors, transformers, controls, met stations components, computers, batteries, and inclinometers will be disconnected and separated from their piers, torque tubes, enclosures and foundations and placed on pallets to be fork-lifted onto a truck for

disposal at a facility authorized and certified to receive such waste. All other materials and components will remain on their piers, torque tubes, enclosures and foundations and taken together to the nearest landfill.

Gen-tie Poles

A lineman will remove any hardware and disconnect any wires from the Gen-tie poles. A forklift will be used to lift the poles out of the ground and place them onto a flatbed truck for transport to the nearest landfill.

Inverters and Transformers

Inverters and transformers will be unbolted from piers or foundations and loaded via forklift onto flatbed trucks for transport to the nearest landfill. Concrete foundations will be broken up with a jackhammer or a back hoe and will be hauled offsite by a dump truck for disposal at the nearest landfill.

Electrical Combiner Boxes

After all conductors have been disconnected and processed for removal, combiner boxes will be unbolted from piers or foundations. They will be placed on pallets and loaded via forklift onto flatbed trucks for transport to the nearest landfill. Concrete foundations will be broken up with a jackhammer or a back hoe and will be hauled offsite by a dump truck for disposal at the nearest landfill.

PV Modules and Torque Tubes

Within each array row, the PV modules are mounted on steel torque tubes that are supported by bearings on steel array piers. A motor and slew drive is mounted on the central pier of each row to rotate the torque tube east-west. The torque tubes will be separated and removed in 20 to 25 foot sections by either un-bolting or by cutting with a hydraulic scissors. These sections of the array rows (torque tubes with PV modules attached) will be loaded via forklift onto flatbed trucks for transport to the nearest landfill.

DC/AC/Telecom Conductors

Above ground conductors will be disconnected from electrical/electronic components, coiled, and placed in a truck for transport to the nearest landfill. Sub-surface conductors including ground rods/wires will be pulled up, coiled, and placed in a truck for transport to the nearest landfill. Trenches will be opened to expose sub-surface conduits which, along with surface conduits, will be cut into 20 foot lengths and placed in a truck for transport to the nearest landfill.

Removal of Motor and Array Piers

Motor and array piers will be lifted out of the ground using a chain/clamp and forklift. The piers will be strapped into bundles and loaded onto a flatbed truck for disposal. Bearings, adapters, motors, and slew drives will remain attached to their piers and removed together as one unit.

Fencing and Signage

All fence structures and signage not present prior to the solar project will be removed along with any concrete foundation structures from the project site. Barbed wire and chain link fencing will be cut from the posts and rolled up into bundles. The posts and concrete foundations will be pulled up using a fork lift. These structures and materials will be hauled offsite by a dump truck for disposal at the nearest landfill.

Soil Stabilization

A solution of approved chemical stabilizers in water will be sprayed on all areas disturbed by the restoration process as required to stabilize the soil and reduce dust and particulates.

Site Topology

The site/facility topology including retention basins, internal access paths, and asphalt transitions to paved County roads will remain unchanged and in place.

Management and Monitoring

Project Manager

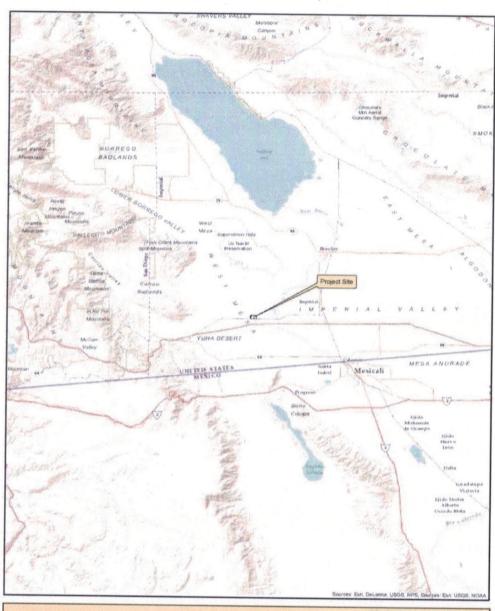
A project manager will be retained to administer the restoration plan and manage any employees or sub-contractors utilized to complete restoration activities. The Project Manager will be responsible for compliance, health, safety, monitoring, de-mobilization, and final close-out.

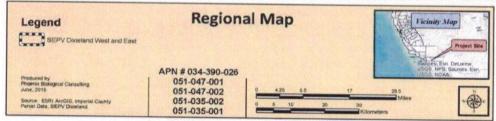
Biological Consultant

A biological consultant will be retained to conduct pre and post restoration biological surveys to assure compliance with all applicable regulations.

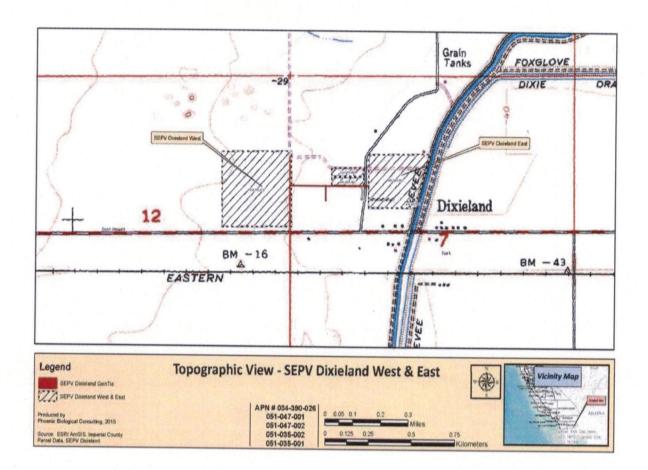
Appendix A

Regional Location Map

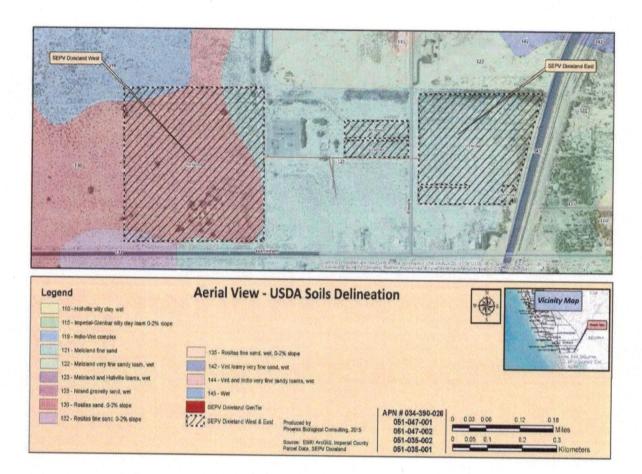




Topographical Map



USDA Soil Survey Data



Restoration Estimate for SEPV Dixieland East and SEPV Dixieland West Solar Projects

SEPV Dixieland East (2MW) and SEPV Dixieland West (3MW)

Project Area (acres) 53

Project Capacity (MWac) 5

<u>Labor Rate (\$/hr/person)</u> 20

Equipment Rate (\$/hr/equip) 75

Restoration Plan	Description	Removal Process	QTY	Units	Labor Hours	Labor Rate (\$/hr)	Equip Hours	Equip Rate (\$/hr)	Total Cost (\$)
Removal of Electrical Components									
PV Modules and Torque Tubes	dimensions of 77"l x 39"w x 1.6"t approx 60lb in weight. Torque Tubes are 4" x 4" x 4mm square steel tubes approx 100 lb in weight. Each section length will contain 6 to 8 PV modules.	The torque tubes will be separated and removed in 20 to 25 foot sections by either unbolting or by cutting with a hydraulic scissors. PV Module wires will be disconnected. Sections of the array rows (torque tubes with PV modules attached) will be loaded via forklift onto flatbed trucks for transport to the nearest landfill. Min # of people required: 3	3,100	each	0.5	\$20	0.2	\$75	\$77,500
DC Collection Conductors	PV 1000VDC (Cable channel, or direct burial or pvc conduit transition) Combiner box to inverter: 600 KCMIL AI PV	All underground equipment and conduit will be removed by trenching and pulling. They will then be coiled, and placed into a truck for disposal along with surface conductors Min # of people required: 2	160	1000 ft.	1	\$20	1	\$75	\$15,200

AC Collection Conductors	Transformer to Transformer or to MV Pole Riser: #1/0 AL TR-XLP, 15 kv MV-90 100%, 1/3 concentric neutral (Direct Burial 2.5" SCHD 40 PVC below ground, SCHD 80 above ground, one #4 AWG GND per conduit) Inverter to Transformer: 500 KCMIL Cu RHW-2 ((4)4" SCHD 40 PVC Conduit) and #4/0 Cu Bare ((4)4" SCHD 40 PVC Conduit)	All underground equipment and conduit will be removed by trenching and pulling. They will then be coiled, and placed into a truck for disposal along with surface conductors Min # of people required: 2	9	1000 ft.	16	\$20	1	\$75	\$3,555
Electrical Combiner Boxes	BenTech PV String Combiner, 8 circuit BenTech DC Master Combiner, 7x200A	The wires will be disconnected and rolled up. Combiner boxes will be unbolted from piers. Both will be placed on pallets for disposal. Min # of people required: 2	40	each	1	\$20	0.5	\$75	\$2,300
Inverters (including foundations)	SMA 500 CP-US with DC Switch	The inverters will be unbolted from the pad and put on a truck for removal. The foundation will be broken up with jackhammers or a back hoe. The broken up pieces will be put into a dump truck for removal. Min # of people required: 2	10	each	8	\$20	2	\$75	\$3,100
Transformers (including foundation)	ABB 500KVA	The Transformers will be unbolted from the pad and put on a truck for removal. The foundation will be broken up with jackhammers or a back hoe. The broken up pieces will be put into a dump truck for removal. Min # of people required: 2	5	each	8	\$20	2	\$75	\$1,550

Gen-tie 12.47kV poles, switchgear, metering , and control components	S&C IntelliRuptor Switch Schwitzer SEL-735 meter	A lineman will remove the hardware and disconnect the wires from the Gen-tie pole. A forklift will be used to lift the pole out of the ground and transport it to a truck for removal. Metering and control components will be unbolted from the pad and on a dumpster for disposal. Communication lines above 18" below the surface will be pulled out, rolled up, and disposed. Min # of people required: 3	2	each	16	\$20	4	\$75	\$1,240
Metrological Station components and foundation		The wires will be disconnected from the MET Station and rolled up. Then the equipment components (weather head, pyranometer, etc) will be unbolted. The pole will be pulled up using a fork lift. The pole, wires, and components will be placed on a pallet to be disposed. Min # of people required: 2	2	each	8	\$20	1	\$75	\$470
Dampers, Inclinometers, and Controls	Twistlock Bobtail Pin and Collars), Self Powered Controller Assembly (Controller,	E-waste such as Controls and Inclinometers to be removed and placed on pallets for disposal. All other components to remain on the piers. Min # of people required: 2	339	array rows	0.5	\$20	0.25	\$75	\$9,746

Removal of Mechanical Components									
Motor and Array Piers	Motor Pier: Steel W6x15, M12 18'	Once PV Modules, Electrical Wires, and Torque Tubes have been disconnected, Motor and Array piers will be lifted out of the ground using a chain/clamp and forklift. The piers will be strapped into bundles and loaded onto a flatbed truck for removal. Min # of people required: 3	3,049	each	0.3	\$20	0.1	\$75.00	\$ 41,162
Motor and Slew Drive Assembly	Flange Nut, M20x75 Hex Bolt) Grip 20 M12 Twistlock bobtail Pin , M12 Twistlock Bobtail Collar , Motor , M5 x 16 SHCS , Torque Tube Adapter, M12x30 Hex Bolt ,	The motor and slew drive assembly will remain secured to the motor piers. They will be removed as the piers are lifted out of the ground and disposed. (See Motor and Array Pier Removal) Min # of people required: 0	339	each	0	\$20	0	\$75	\$0
Rails, Clamps, Bearing, and Adapters	Module Mounting Rail Subassembly (U-Bolt, U-Bolt Clamp, M10 Nut, Module Mounting Rail), Exterior Torque Tube Adapter Assembly (Torque Tube Adapter, M12x55 Hex Bolt, M14 Washer, M12 Washer), Bearing Housing Subassembly (Bearing Housing Brackets Right and Left).	Rails and clamps will remain secured to torque tubes. They will be removed as the torque tubes are separated from the piers. (See Torque Tube Removal) The bearings and adapters will remain connected to the piers. They will be removed as the piers are lifted out of the ground and disposed. (See Motor and Array Pier Removal) Min # of people required: 0	44,238	each	0	\$20	0	\$75	\$0

Fencing and Signage	on 8ft centers with 6ft high 11GA	The barbed wire and the chain link fence will be cut from the posts and rolled up into bundles. The posts and concrete foundations will be pulled up using a fork lift. Posts and fencing will be placed on pallets or bundled to be disposed. Min # of people required: 2	11	1000 ft.	16	\$20	8	\$75	\$10,120
Freight and Soil Stabilization									
Freight and Transportation	Dumptrucks and flatbed trucks will be used to transport all materials and equipment from the project sites to the landfill.	After waste is loaded into trucks it will be transported to the nearest landfill ~ 8 miles. Equipment rate includes all dump fees. Min # of people required: 1	40	trips	1.5	\$20	1.5	\$300	\$19,200
Soil Stabilization	Chloride based solutions will be applied to disturbed ground areas including trenches, entrances, and access roads as required to develop a "crust" to reduce wind blown particulates.	Equipment rate includes all material costs. Min # of people required: 2	37	1,000 sq. yd.	1	\$20	0.5	\$500	\$9,936
Management and Monitoring					Labor Days	Labor Rate (\$/Day)			
Project Management	The Project Manager will oversee health, safety, compliance, and the completion of decommissioning.	Total Project hours considering 30 men working for 10 hour days.	17	days	1	\$1,000	0	\$0	\$17,095
Biological Consultant	The Biological Consultant will conduct a 3 day final biology survey.	3 days	3	days	1	\$1,000	0	\$0	\$3,000
							Total		\$ 215,174
							Cost per Acr		\$ 4,059
							Cost per MV	V	\$ 43,035

Total days of Restoration	17
flours per day or work	8
Hours per day of work	Q
# of people working	25
Total Hours	3,419