

Draft Environmental Impact Report

VEGA SES Solar Energy Project

SCH No. 2017081019

Imperial County, California

September 2018

Prepared for

**County of Imperial
801 Main Street
El Centro,
CA 92243**

Prepared by

**HDR Engineering, Inc.
8690 Balboa Avenue,
Suite 200
San Diego, CA
92123**



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Acronyms

°	degrees
3-D	Three-dimensional
AB	Assembly Bill
AC	alternating current
ADA	Americans with Disabilities Act
ADT	average daily traffic
AEP	annual exceedance probability
AF	acre-feet
AFY	Acre-feet per year
ALUCP	Airport Land Use Compatibility Plan
AP	Alquist-Priolo
APLIC	Avian Powerline Interaction Committee
APN	assessor parcel number
APP	avian protection plan
AQAP	Air Quality Attainment Plan
AQMP	Air Quality Management Plan
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
BAU	business as usual
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	best management practice
BSA	biological study area
BTR	Biological Technical Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFÉ	corporate average fuel economy
CalARP	California Accidental Release Prevention
CalEEMod	California Emission Estimator Model
CalEPA	California EPA
Cal-OSHA	California Occupational Safety and Health Agency
CalRecycle	California Department of Resources Recycling and Recover
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHRIS	California Historical Resources Information System
CNEL	community noise equivalent level
CO	carbon monoxide
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
County	Imperial County
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources




CTC	county transportation commission
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DC	direct current
DDE	Dichlorodiphenylethylene
DDT	Dichlorodiphenyltrichloroethane
DOC	Department of Conservation
DOGGR	Division of Oil, Gas, and Geothermal Resources
DPM	diesel particulate matter
DTSC	Department of Toxic Substance Control
DWR	Department of Water Resources
EB	eastbound
EDR	Environmental Data Research, Inc.
EHS	Environmental Health Services
EIR	Environmental Impact Report
EMA	Environmental Management Associates, Inc.
EO	Executive Order
EOP	emergency operations plan
EPA	Environmental Protection Agency
EPCRA	Emergency Planning Community Right-to-Know Act
ESA	Environmental Site Assessment
ESRL	Earth System Research Laboratory
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FIRM	flood insurance rate maps
FMMP	Farmland Mapping and Monitoring Program
FSZ	Farmland Security Zone
FTA	Federal Transit Administration
GCC	global climate change
GHG	greenhouse gas
GS Lyon	GS Lyon Consultants, Inc.
GV	growth visioning
GWP	global warming potential
HCP	habitat conservation plan
HFC	hydrofluorocarbon
HMMP	hazardous material management program
HSAT	horizontal single-axis sun tracking
HSC	Health and Safety Code
HSWA	Hazardous and Solid Waste Amendments
HU	hydrological unit
Hz	hertz
I-8	Interstate 8
ICAPCD	Imperial County Air Pollution Control District
ICFD	Imperial County Fire Department
ICFD/OES	Imperial County Fire Department and Office of Emergency Services
ICPDS	Imperial County Planning & Development Services
IGR	Intergovernmental Review
IID	Imperial Irrigation District
IOU	investor-owned utility
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Plan
IS	initial study

IVAG	Imperial Valley Association of Governments
IVC	Imperial Valley College
IVT	Imperial Valley Transit
IWSP	Interim Water Supply Policy
KOP	key observation point
kV	kilovolt
LCC	land capability classification
LCFS	low carbon fuel standard
L _{dn}	day-night average sound level
LE	land evaluation
L _{eq}	equivalent sound level
LESA	land evaluation site assessment
L _{max}	maximum noise level
LOS	level of service
MBTA	Migratory Bird Treaty Act
MHMP	multi-jurisdictional hazard mitigation plan
MLD	most likely descendant
MMT	million metric tons
MMTCO _{2e}	million metric tons of CO ₂ equivalent
MPO	metropolitan planning organization
MS4	Municipal Separate Storm Sewer System
MT	metric tons
MW	megawatt
N/A	Not Applicable
N ₂	nitrogen
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAF	Naval Air Facility
NAGPRA	Native American Grave Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO	Nitric oxide
NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO _x	nitrogen oxide
NO _x	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	operations and maintenance
O ₂	Oxygen
O ₃	Ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OHW	ordinary high water
OHWM	ordinary high water mark
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCB	polychlorinated biphenyls
PFC	perfluorocarbon



PHF	peak-hour factor
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
POU	publicly-owned utility
PPA	power purchase agreement
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PV	photovoltaic
PVC	Polyvinyl chloride
RCP	Regional Comprehensive Plan
RCRA	Resource Conservation and Recovery Act
RE	renewable energy
REA	Registered Environmental Assessor
REL	reference exposure levels
ROG	reactive organic gas
ROW	right-of-way
RPS	Renewable Portfolio Standard
RPW	relatively permanent water
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/ Sustainable Communities Strategy
RWQCB	regional water quality control board
SA	site assessment
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SDG&E	San Diego Gas and Electric
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SO ₂	sulfur dioxide
SO _x	sulfur oxide
SPCC	Spill Prevention, Control, and Countermeasures
SR	State Route
SSAB	Salton Sea Air Basin
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
tCO _{2e}	tonnes of carbon dioxide equivalents
TIS	Traffic Impact Study
TMDL	total maximum daily load
TNW	traditional navigable water
TSS	total suspended solids
TWSC	two-way stop controlled
U.S.	United States
UBC	Uniform Building Code
UNFCCC	United Nations Framework Convention on Climate Change
UPS	uninterruptable power supply
USA	underground service alert
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service



USGS	United States Geological Survey
UST	underground storage tank
V/C	volume to capacity ratio
VOC	volatile organic compound
WB	westbound
WDA	waste discharge requirements
WEAP	worker environmental awareness program
µg/m ³	microgram per cubic meter



Executive Summary

Project Overview

The proposed project is located approximately 9 miles southwest of the City of El Centro, California on privately owned, undeveloped agricultural land encompassing approximately 574 gross acres in southwestern Imperial County. The project site is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road.

The proposed project involves the construction of a 100 megawatt (MW) photovoltaic (PV) solar energy facility with an integrated 100 MW battery storage system on approximately 574 gross acres of land. Of the total 574 gross acres, approximately 555 acres would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substation, battery storage system, and internal access roads.

The project 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, horizontal single-axis sun tracking (HSAT) support structures, and electronic/electrical equipment to convert the electricity from the PV modules from direct current (DC) electricity to alternating current (AC). Ancillary equipment includes switch/fuse panels, control and protection equipment, and communications hardware. Additional auxiliary facilities would include lighting and security systems. In addition, a major component of the project would be the restoration of the project site to pre-project conditions once the project is no longer in use.

The electrical energy produced by the project would be conducted through the project's substation to a proposed 230 kilovolt (kV) generator intertie ("gentie") line and delivered to the Imperial Irrigation District (IID) at the proposed IID 230 kV Fern Substation. The project's power would then be transmitted by the IID to the point of interconnection with the utility which has agreed to purchase the output from the solar project pursuant to a power purchase agreement (PPA).

Purpose of an EIR

The purpose of an environmental impact report (EIR) is to analyze the potential environmental impacts associated with a project. California Environmental Quality Act (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.

Eliminated from Further Review in Notice of Preparation

Based on the Initial Study (IS) and Notice of Preparation (NOP) prepared for the proposed project (Appendix A of this EIR), Imperial County has determined that the proposed project 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 site is located on privately owned, undeveloped agricultural land. No portion of the project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the proposed project would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed project would not impact forestry resources.

Mineral Resources

The project site is 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 site nor does the project site contain mapped mineral resources. As such, the proposed project would not adversely affect the availability of any known mineral resources. Therefore, no impact is identified for mineral resources.

Recreation

The proposed project 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 project does not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

Population/Housing

The project site is currently used for agricultural production. Development of housing is not proposed as part of the project. The facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. The proposed project would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal. Therefore, no impact is identified for population and housing.

Public Services (Schools, Parks, and Other Facilities)

The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project 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 project 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 project 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 site (such as Operations and

Maintenance [O&M] buildings); therefore, there would be no wastewater generation from the proposed project. The proposed project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB).

The proposed project is 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 battery storage containers, substation, and gentie would not require water during operation of the project; therefore, these components would not contribute to runoff water. The proposed project 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. As described in Chapter 3, Project Description, to retain the total volume of a 3-inch precipitation covering the solar energy facility site with no reduction from infiltration, storm water retention basins would be constructed on the solar energy facility site to manage stormwater runoff. No Imperial Irrigation District drains or canals will be removed or relocated within the project site. A less than significant impact is identified for these issue areas.

During construction and operation of the project, 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 California Department of Resources Recycling and Recovery (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 1.8 million cubic yards of remaining capacity and is estimated to remain in operation through 2077 (CalRecycle n.d.). 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 (CalRecycle n.d.). 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 project would generate solid waste during construction and operation, it 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 will contain provisions for recycling and diversion of construction waste per policies of the County.

At the end of the project's useful life, approximately 30 years in the future, some waste would be generated from decommissioning of the facility. A collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. As described in Chapter 3, Project Description of this EIR, 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 site and temporary on-site haul roads would be de-compacted.

- 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.

As a good portion of the dismantled materials would likely be salvaged, impacts on solid waste service and landfill capacity are anticipated to be less than significant during project decommissioning.

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

Error! Reference source not found. summarizes existing environmental impacts that were determined to be potentially significant, mitigation measures, and level of significance after mitigation associated with the project.

Areas of Controversy and Issues to be Resolved

Areas of Controversy

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 the project, areas of controversy and issues to be resolved include potential impacts related to agricultural resources, aesthetics (light/glare), 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.

Additionally, the County decision makers must consider the proposed project and potential alternatives to the project when deciding whether to approve the project as currently proposed.

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Agricultural Resources			
Impact 4.2-1: Conversion of Important Farmlands to non-agricultural use	Potentially Significant	<p>AG-1a Payment of Agricultural and Other Benefit Fees. One of the following options included below is to be implemented prior to the issuance of a grading permit or building permit for the project:</p> <p>Mitigation for Non-Prime Farmland</p> <p>Option 1: <i>Provide Agricultural Conservation Easement(s).</i> The Permittee shall procure Agricultural Conservation Easements on a “1 on 1” basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or</p> <p>Option 2: <i>Pay Agricultural In-Lieu Mitigation Fee.</i> The Permittee shall pay an “Agricultural In-Lieu Mitigation Fee” in the amount of 20 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner’s office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or,</p> <p>Option 3: <i>Public Benefit Agreement.</i> The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that is 1) consistent with Board Resolution 2012-005; 2) the Agricultural Benefit Fee must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program, as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy.</p> <p>Mitigation for Prime Farmland</p> <p>Option 1: <i>Provide Agricultural Conservation Easement(s).</i> The Permittee shall procure Agricultural Conservation Easements on</p>	Less Than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>a “2 on 1” basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or</p> <p>Option 2: Pay Agricultural In-Lieu Mitigation Fee. The Permittee shall pay an “Agricultural In-Lieu Mitigation Fee” in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner’s office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or,</p> <p>Option 3: Public Benefit Agreement. The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that is 1) consistent with Board Resolution 2012-005; 2) the Agricultural Benefit Fee must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program, as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy; the Project and other recipients of the Project’s Agricultural Benefit Fee funds; or emphasis on creation of jobs in the agricultural sector of the local economy for the purpose of off-setting jobs displaced by this Project.</p> <p>Option 4: Avoid Prime Farmland. The Permittee must revise their CUP Application/Site Plan to avoid Prime Farmland.</p> <p>AG-1b Site Reclamation Plan. The DOC has clarified the goal of a reclamation and decommissioning plan: the land must be restored to land which can be farmed. In addition to Mitigation Measure AG-1a for Prime Farmland and Non-Prime Farmland, the Applicant shall submit to Imperial County a Reclamation Plan prior</p>	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		to issuance of a grading permit. The Reclamation Plan shall document the procedures by which the project site will be returned to its current agricultural condition/LESA score of 72.05. Permittee shall also provide financial assurance/bonding in the amount equal to a cost estimate prepared by a California-licensed general contractor or civil engineer for implementation of the Reclamation Plan in the event Permittee fails to perform the Reclamation Plan.	
Impact 4.2-3: Result in other effects that could contribute to the conversion of active farmlands to non-agricultural use.	Potentially Significant	Implement Mitigation Measure AG-1b	Less Than Significant
Impact 4.2-4: Adversely affect agricultural productivity	Potentially Significant	Implement Mitigation Measure AG-1b. AG-2 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. The plan shall provide the following: <ol style="list-style-type: none"> 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: <ul style="list-style-type: none"> • 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. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business; • All treatments must be performed by a qualified 	Less Than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>applicator or a licensed pest control operator;</p> <ul style="list-style-type: none"> • “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; • Use of “permanent” soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation. • Notify the Agricultural Commissioner’s office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food and Agriculture and the United States Department of Agriculture. Request a sample be taken by the Agricultural Commissioner’s Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner’s Office and/or California Department of Food and Agriculture; • Obey all pesticide use laws, regulations, and permit conditions; • Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties; • Ensure that all project employees that handle pest control issues are appropriately trained and certified, that all required records are maintained and made available for inspection, and that all required permits and other required legal documents are current; • Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include the chemical(s) used, U.S. Environmental Protection Agency 	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>(EPA) Registration numbers, application rates, etc. A pesticide use report may be used for this;</p> <ul style="list-style-type: none"> • Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request. <p>3. A long-term strategy for weed and pest control and management during the operation of the proposed projects. Such strategies may include, but are not limited to:</p> <ul style="list-style-type: none"> • Use of specific types of herbicides and pesticides on a scheduled basis. <p>4. Maintenance and management of project site conditions to reduce the potential for a significant increase in pest-related nuisance conditions on surrounding agricultural lands.</p> <p>The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.</p>	
Air Quality			
Impact 4.3-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	Less than Significant	<p>AQ-1 Construction Equipment. Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at each of the projects by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the Imperial County Planning and Development Services Department (ICPDS) and Imperial County Air Pollution Control District (ICAPCD) prior to the issuance of a grading permit. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed</p>	Less than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>significance thresholds. The ICPDS and ICAPCD shall verify implementation of this measure.</p> <p>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.</p> <p><i>ICAPCD Standard Measures for Fugitive Dust (PM₁₀) Control</i></p> <ul style="list-style-type: none"> • All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material, such as vegetative ground cover. • All on- and off-site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering. • The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk 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. • All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a 	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>cumulative distance of 50 linear feet or more onto a paved road within an urban area.</p> <ul style="list-style-type: none"> • Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line. • The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering. <p>ICAPCD “Discretionary” Measures for Fugitive Dust (PM₁₀) Control</p> <ul style="list-style-type: none"> • Water exposed soil with adequate frequency for continued moist soil. • Replace ground cover in disturbed areas as quickly as possible. • Automatic sprinkler system installed on all soil piles. • Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site. • Develop a trip reduction plan to achieve a 1.5 average vehicle ridership for construction employees. • Implement a shuttle service to and from retail services and food establishments during lunch hours. <p>Standard Mitigation Measures for Construction Combustion Equipment</p> <ul style="list-style-type: none"> • 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 	



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>in use or reducing the time of idling to 5 minutes as a maximum.</p> <ul style="list-style-type: none"> • 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). <p>Enhanced Mitigation Measures for Construction Equipment To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.</p> <ul style="list-style-type: none"> • 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). <p>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/ Office of Emergency Services [OES] Department).</p> <p>AQ-4 Dust Suppression Management Plan. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain approval from ICAPCD and ICPDS.</p> <p>AQ-5 Operational Dust Control Plan. Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain approval from ICAPCD and ICPDS.</p> <p>ICAPCD Rule 301 Operational Fees apply to any project applying for a building permit. At the time that building permits are</p>	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		submitted for the proposed project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.	
Biological Resources			
Impact 4.4-1: Possible Habitat Modification	Potentially Significant	<p><i>Burrowing Owl</i></p> <p>Burrowing owls are known to occur within the project impact area, particularly along the irrigation canals within active agricultural fields. To avoid, minimize, and mitigate impacts on burrowing owls during construction, the following measures are provided:</p> <p>BIO-1 Burrowing Owl Mitigation. Burrowing owls have been observed in the active agricultural fields within the project site. The following measures will avoid, minimize, or mitigate potential impacts on burrowing owl during construction activities:</p> <ol style="list-style-type: none"> 1. To the extent feasible, construction grading/clearing of the Project footprint should occur during the non-nesting season (September 1 through January 31) in order to avoid impacts on breeding owls. 2. A distance of 160 feet during the non-nesting season (September 1 through January 31), or 250 feet during the nesting season (February 1 through August 31), shall be maintained between active burrows and construction activities. A qualified biologist may also employ the technique of sheltering in place (using hay bales to shelter the burrow from construction activities). If this technique is employed, the sheltered area shall be monitored weekly by a qualified biologist. 3. If construction is to begin during the breeding season, pre-construction clearance surveys shall be implemented prior to February 1 to discourage the nesting of burrowing owls within the project footprint. As construction continues, any area where owls are sighted shall be subject to frequent surveys by the qualified biologist for burrows before the breeding season begins, so that owls can be properly relocated before nesting 	Less Than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>occurs.</p> <ol style="list-style-type: none"> <li data-bbox="926 415 1629 914">4. Pre-construction clearance surveys for this species shall be conducted by a qualified biologist no more than 14 days prior to the start of ground disturbance and at least 24 hours prior to the start of construction. A report documenting the presence or absence of this species within the project footprint shall be submitted by qualified and agency-approved biologists. These clearance surveys are required because 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 qualified 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. <li data-bbox="926 938 1629 1463">5. If active burrows are present within the project footprint, the following mitigation measures shall be implemented. Passive relocation methods are to be implemented under the supervision of the qualified biologist to move the owls out of the impact zone. Passive relocation shall only be done during 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 1 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 2:1 at least 50 meters from the impacted 	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>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 energy facility, such as retention basins.</p> <p>6. 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 on this species. Passive relocation, destruction of burrows, construction of artificial burrows, and a Forage Habitat Plan shall only be completed upon prior approval by and in cooperation with 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.</p> <p>BIO-2 Burrowing Owl Compensation. The project applicant shall compensate for impacts on burrowing owl habitat through the following measures:</p> <ul style="list-style-type: none"> • CDFW’s mitigation guidelines for burrowing owl (CDFW 2012) require the acquisition and protection of replacement foraging habitat per pair or unpaired resident bird to offset the loss of foraging and burrowing habitat on the project site. • The project applicant shall landscape small pockets of land along the perimeter of the solar energy facility, and/or within the solar energy facility, with native vegetation that will provide suitable foraging habitat for burrowing owls, pursuant to a Mitigation and Monitoring Plan that is reviewed and approved by CDFW prior to the commencement of construction. Although the site plans show almost 100 percent coverage of solar panels, it is anticipated that because of the nature of solar panel configuration, there will be spaces at various locations, such as between the edges of the agricultural fields (i.e., outside of IID easements) and the solar project footprint. Sufficient open areas shall be set aside for 	



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>burrowing owl habitat and burrow relocation for the lifespan of the solar project. Because of County of Imperial requirements that the solar energy facility be returned to active agriculture after the life of the solar projects, it is assumed that when the land is returned to active agricultural crops, it will continue to provide habitat for burrowing owl. If the vegetation that is planted does not succeed, sufficient areas cannot be provided on site, or planting is not feasible, alternative mitigation shall be provided, which CDFW determines provides equivalently effective mitigation. Such alternative mitigation may include off-site preservation of the required amount of foraging habitat through a CDFW-approved conservation easement, or an in-lieu fee in an amount approved by CDFW that is sufficient to acquire such conservation easements, or some combination of the two.</p> <p>BIO-3 Worker Environmental 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:</p> <ul style="list-style-type: none"> • Biology and status of the burrowing owl and any other special-status wildlife species found during pre-construction surveys; • CDFW/USFWS regulations; • Protection measures designed to reduce potential impacts on special-status wildlife species, function of flagging designated authorized work areas; • Reporting procedures to be used if a burrowing owl (dead, alive, injured) or other special-status wildlife species is encountered in the field. 	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>BIO-4 Speed Limit. The Qualified Biologist or Biological Monitor(s) shall evaluate and implement the best measures to reduce burrowing owl mortality along access roads.</p> <ul style="list-style-type: none"> • A speed limit of 15 miles per hour when driving access roads shall be established. All vehicles required for O&M must remain on designated access/maintenance roads. <p>BIO-5 Construction Monitoring. If pre-construction surveys determine either the presence of special-status species, sensitive biological resources, or nesting birds, a biological monitor may be warranted during construction.</p> <p>If determined necessary, biological compliance monitoring during construction shall be conducted by a qualified biologist. The qualified biologist shall be given authority to execute the following functions:</p> <ul style="list-style-type: none"> • Prepare and conduct a Worker Environmental Awareness Program (per BIO-3) to all construction personnel that provides regulatory information, special-status species, sensitive habitat information, and best management practices; • Establish construction exclusion zones and make recommendations for implementing erosion and dust control measures in temporary impact areas; • Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of approved disturbance; • Minimize trimming/removal of vegetation within the project impact areas; • Restrict non-essential equipment to existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation; and • Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities. <p>During construction, biological monitors shall inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the proposed project areas are not impacted. The</p>	



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>biological monitor shall coordinate with the construction foreman and construction crew and shall have the authority to immediately stop any activity that has the potential to impact special-status species or remove vegetation not specified in this report.</p> <p><i>Migratory Birds and Other Sensitive Non-Migratory Bird Species</i></p> <p>To avoid, minimize, and mitigate impacts on migratory birds and other sensitive non-migratory bird species during construction, operations, and maintenance, the following measures are provided:</p> <p>BIO-6 Temporary Construction Suspension. If a qualified Biological Monitor observes mountain migratory birds and/or other special-status non-migratory bird species foraging within the project site, or in adjacent agricultural fields, the qualified Biological Monitor shall have the discretion to cease construction in the area of the observed species (i.e., maintain an appropriate buffer between the species and construction activity) until they disperse. Additionally, in order to reduce impacts on migratory birds and/or other special-status non-migratory bird species, an avian protection plan (APP) shall be prepared following USFWS guidelines and subsequently implemented by the project applicant. The requirements of the APP are described in Mitigation Measure BIO-8.</p> <p>BIO-7 Pre-Construction Bird Surveys. To avoid impacts on nesting birds and to comply with the MBTA, clearing of vegetation should occur during the non-nesting (or non-breeding) season for birds (generally, September 1 to January 31). If this avoidance schedule is not feasible, the alternative is to carry out the clearing of vegetation associated with construction under the supervision of a qualified biologist. This would entail a pre-construction nesting bird survey conducted by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey shall consist of full coverage of the proposed disturbance limits and up to a 500-foot buffer area, determined by the biologist and taking into account the species nesting in the area and the habitat present. If no active nests are found, no additional measures are required. If “occupied” nests are found, their locations shall be mapped, species documented, and, to the degree feasible, the status of the nest (e.g., incubation of eggs, feeding of young, near fledging) recorded. The biologist shall establish a no-disturbance buffer around each active nest. The buffer area shall be determined by</p>	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>the biologist based on the species present, surrounding habitat, and type of construction activities proposed in the area. No construction or ground disturbance activities shall be conducted within the buffer until the biologist has determined the nest is no longer active and has informed the construction supervisor that activities may resume.</p> <p>BIO-8 Construction and O&M Mitigation Measures. In order to reduce the potential indirect impact on migratory birds and raptors, an APP shall be prepared following the USFWS’s guidelines and implemented by the project applicant. This APP shall outline conservation measures for construction and O&M activities that might reduce potential impacts on bird populations and shall be developed by the project applicant in conjunction with the County.</p> <p>Construction conservation measures to be incorporated into the APP include:</p> <ol style="list-style-type: none"> 1. Minimizing disturbance to vegetation to the maximum 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. Direct impact on 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. <p>O&M conservation measures to be incorporated into the APP include:</p> <ol style="list-style-type: none"> 1. Incorporate the Avian Powerline Interaction Committee’s guidelines for overhead utilities as appropriate to minimize 	



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>avian collisions with transmission facilities (Avian Powerline Interaction Committee 2012).</p> <ol style="list-style-type: none"> 2. Minimize noise. 3. Minimize use of outdoor lighting. 4. Implement 1 year of post-construction avian monitoring incorporating the Wildlife Mortality Reporting Program. Additional years of post-construction avian monitoring should only be required at the discretion of the qualified Biological Monitor should they determine that avian mortality is occurring and measures are necessary to be implemented to reduce observed avian mortality. <p>BIO-9 Raptor and Active Raptor Nest Avoidance. Raptors and active raptor nests are protected under California FGC 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact on nesting raptors, such as red-tailed hawk, the following measures shall be implemented:</p> <ol style="list-style-type: none"> 1. Initial grading and construction within the project site should take place outside the raptors' breeding season of February 1 to July 15. 2. 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 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-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. <p><i>Other Special-Status Wildlife Species</i></p> <p>The project area contains potentially suitable habitat for other special-status wildlife species, including flat-tailed horned lizard and Yuma hispid cotton rat.</p>	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>To avoid, minimize, and mitigate impacts on flat-tailed horned lizard and Yuma hispid cotton rat during construction, the following measures are provided:</p> <p>BIO-10 Flat-tailed Horned Lizard Focused Surveys. Surveys for flat-tailed horned lizards shall be conducted at least 14 days prior to ground disturbing activities following the standard protocols for this species. The current survey protocol for flat-tailed horned lizards is as follows. Transects consisting of parallel, linear routes shall be evenly spaced in areas of suitable habitat for flat-tailed horned lizards. The number and distribution of transects shall be such that a minimum of 10 hours of survey effort will be expended per 640 acres surveyed. Each transect shall be traversed by a single worker. On each transect, either scat or lizards shall be surveyed. The location of transects and each flat-tailed horned lizard and scat shall be recorded. However, all observations of horned lizards or scat will be noted regardless of whether the transect is a scat or lizard transect. Scat and lizard survey routes shall be alternated or randomly assigned to the transects. Three surveys shall be conducted, spaced at least 2 weeks apart from April through September. Lizard surveys shall be conducted when surface temperatures in the sun range from 35° to 50°C (95° to 122°F). Scat surveys shall not be conducted for at least 12 days after heavy rains, hailstorms, or strong winds of an intensity sufficient to move considerable amounts of sand across roads or to damage signs and trees. In addition, road surveys shall be conducted by driving all roads in or near the areas where transects are situated and recording observations of horned lizards. Surveyors shall drive very slowly (no faster than 10 miles per hour). Three road surveys shall be conducted from April through September. Roads shall be driven in the morning when substrate temperatures adjacent to the roads and in the sun range from 35° to 50°C (95° to 122°F). The location of each flat-tailed horned lizard observed shall be recorded. If flat-tailed horned lizards are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction (See BIO-5).</p> <p>BIO-11 Pre-construction Surveys for Yuma Hispid Cotton Rat. A pre-construction survey for Yuma hispid cotton rat shall be conducted</p>	



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey shall consist of full coverage of the proposed disturbance limits and a 150-meter buffer, and can be performed concurrently with nesting bird surveys. If any Yuma hispid cotton rats are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction (BIO-5).</p>	
Cultural Resources			
Impact 4.5-2: Impact on archaeological resources.	Potentially Significant	<p>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.</p> <p>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, the discovery of any cultural resource within the</p>	Less Than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>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.</p> <p>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.</p>	
Impact 4.5-3: Impact on paleontological resources.	Potentially Significant	<p>CR-3 In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology’s Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts on Paleontological Resources. If any paleontological resources or unique geologic features are found within the project site, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.</p>	Less Than Significant
Impact 4.5-4: Impact on human remains.	Potentially Significant	<p>CR-4 In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the Health and Safety Code). If the Coroner determines that the remains are Native American, the Coroner will notify the NAHC, which will designate an MLD for</p>	Less Than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>the project (Section 5097.98 of the PRC). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).</p>	
Geology and Soils			
Impact 4.6-1: Possible risks to people and structures caused by strong seismic ground shaking	Potentially Significant	<p>GEO-1 Implement Required Measures as described in the Geotechnical Report. Prior to approval of final engineering and grading plans for the project, the County shall verify that all recommendations contained in the <i>Geotechnical Report for the Vega SES Solar Facility</i> prepared by Landmark Consultants, Inc. (August 2018) have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization, to verify compliance with the recommendations of the report. All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the geotechnical report.</p>	Less than Significant
Impact 4.6-2: Unstable geologic conditions	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant
Impact 4.6-3: Construction-related erosion	Potentially Significant	Implement Mitigation Measure HWQ-1	Less than Significant
Impact 4.6-4: Exposure to potential hazards from problematic soils	Potentially Significant	Implement Mitigation Measure GEO-1.	Less than Significant

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
Hydrology/Water Quality			
Impact 4.9-1: Violation of water quality standards	Potentially Significant	<p>HWQ-1</p> <p>Prepare SWPPP and Implement BMPs Prior to Construction and Site Restoration. The project applicant or its contractor shall prepare a SWPPP specific to the project 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 project. The SWPPP(s) shall incorporate control measures in the following categories:</p> <ul style="list-style-type: none"> • Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching) • Dewatering and/or flow diversion practices, if required (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 place on the following water 	Less than Significant



Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity</p> <ul style="list-style-type: none"> • Waste management, handling, and disposal control practices • Corrective action and spill contingency measures • Agency and responsible party contact information • 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 <p>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.</p> <p>HWQ-2 Properly Dispose of Construction Dewatering in Accordance with the Construction General Permit (SWRCB Order No. 2009-0009-DWQ and Associated Amendments) If required, all construction dewatering shall be discharged or utilized for dust control in accordance with the Construction General Permit. The Storm Water</p>	

Table ES-1. Summary of Project Impacts and Proposed Mitigation Measures

Environmental Impact	Significance Before Mitigation	Proposed Mitigation Measures	Significance After Mitigation
		<p>Pollution Prevention Plan shall provide Best Management Practices to be implemented if groundwater is encountered during construction.</p> <p>HWQ-3 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan. The project Drainage Plan shall adhere to County and IID guidelines to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be 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 management of runoff generated from project impervious surfaces as necessary.</p>	

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 project; therefore, the County would not be required to adopt a Statement of Overriding Considerations pursuant to Section 15093 for this project.

Project Alternatives

The environmental analysis for the proposed project evaluated the potential environmental impacts resulting from implementation of the proposed project, as well as alternatives to the project. The alternatives include: Alternative 1: No Project/No Development; Alternative 2: Reduced Site Acreage (Avoid Prime Farmland); and Alternative 3: Development within Renewable Energy Overlay Zone. A detailed discussion of the alternatives considered is included in Chapter 8. **Error! Reference source not found.** summarizes the impacts resulting from the proposed project 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 project, as proposed, would not be implemented and the project site would not be developed.

The No Project/No Development Alternative would not meet any of the objectives of the project. 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) 32 (California Global Warming Solutions Act of 2006).

Alternative 2: Reduced Site Acreage Alternative (Avoid Prime Farmland)

The purpose of this alternative is to avoid the Prime Farmland located within the project site. As discussed in Section 4.2, Agricultural Resources, the project site is comprised of Prime Farmland, Farmland of Statewide Importance, and Other Land. Under Alternative 2, the overall size of the solar energy facility would be reduced by approximately 226 acres by avoiding the development of parcels that contain large areas of Prime Farmland.

Implementation of Alternative 2 would result in reduced impacts for the following environmental issues areas as compared to the proposed project: agriculture, air quality, biological resources, and hydrology/water quality. This alternative would not result in any greater environmental impacts when compared to the proposed project.

Alternative 3: Development within Renewable Energy Overlay Zone

In certain cases, an evaluation of an alternative location in an EIR is necessary. Section 15126(f)(A) of the CEQA Guidelines states, “Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.”

The purpose of this alternative is to develop the proposed project within the County’s Renewable Energy (RE) Overlay Zone. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established areas.

Implementation of Alternative 3 would result in reduced impacts for the following environmental issues areas as compared to the proposed project: agriculture, air quality, and hydrology/water quality. This alternative would result in greater cultural resources impacts compared to the proposed project.

Environmentally Superior Alternative

Table ES-2 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. 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 project. 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: Reduced Site Acreage (Avoid Prime Farmland) because it would reduce impacts for the following environmental issues areas as compared to the proposed project agriculture, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality.



Table ES-2. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Aesthetics	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Agriculture	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact
Air Quality	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact
Biological Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact
Cultural Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Greater Impact

Table ES-2. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Geology and Soils	Less than Significant with Mitigation	<p><i>CEQA Significance:</i> No Impact</p> <p><i>Comparison to Proposed Project:</i> Less Impact (Avoid)</p>	<p><i>CEQA Significance:</i> Less than Significant with Mitigation</p> <p><i>Comparison to Proposed Project:</i> Similar Impact</p>	<p><i>CEQA Significance:</i> Less than Significant with Mitigation</p> <p><i>Comparison to Proposed Project:</i> Similar Impact</p>
Greenhouse Gas Emissions	Less than Significant	<p><i>CEQA Significance:</i> No Impact</p> <p><i>Comparison to Proposed Project:</i> Less Impact</p>	<p><i>CEQA Significance:</i> Less than Significant</p> <p><i>Comparison to Proposed Project:</i> Similar Impact. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced</p>	<p><i>CEQA Significance:</i> Less than Significant</p> <p><i>Comparison to Proposed Project:</i> Similar Impact. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced</p>
Hazards and Hazardous Materials	Less than Significant	<p><i>CEQA Significance:</i> No Impact</p> <p><i>Comparison to Proposed Project:</i> Less Impact</p>	<p><i>CEQA Significance:</i> Less than Significant</p> <p><i>Comparison to Proposed Project:</i> Similar Impact</p>	<p><i>CEQA Significance:</i> Less than Significant</p> <p><i>Comparison to Proposed Project:</i> Similar Impact</p>
Hydrology/ Water Quality	Less than Significant with Mitigation	<p><i>CEQA Significance:</i> No Impact</p> <p><i>Comparison to Proposed Project:</i> Less Impact (Avoid)</p>	<p><i>CEQA Significance:</i> Less than Significant with Mitigation</p> <p><i>Comparison to Proposed Project:</i> Less Impact</p>	<p><i>CEQA Significance:</i> Less than Significant with Mitigation</p> <p><i>Comparison to Proposed Project:</i> Less Impact</p>



Table ES-2. Comparison of Alternative Impacts on Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Land Use/Planning	No Impact	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Noise	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Public Services	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Transportation/Traffic	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Utilities	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact

CEQA = California Environmental Quality Act; GHG = greenhouse gas

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1 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 VEGA SES Solar Energy Project. 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 project as described in detail in Chapter 3 of this EIR.

1.1 Overview of the Proposed Project

The project consists of three primary components: 1) solar generation equipment and associated facilities (herein referred to as “solar energy facility”); 2) battery storage system; and, 3) above ground 230 kilovolt (kV) generator intertie (herein referred to as “gentie”). The solar energy facility, battery storage system, and gentie are collectively referred to as the “proposed project” or “project.”

The proposed project involves the construction of a 100 megawatt (MW) photovoltaic (PV) solar energy facility with an integrated 100 MW battery storage system on approximately 574 gross acres of land. Of the total 574 gross acres, approximately 555 acres would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substation, battery storage system, and internal access roads.

The project 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, fixed frame or horizontal single-axis sun tracking (HSAT) support structures, and electronic/electrical equipment to convert the electricity from the PV modules from direct current (DC) electricity to alternating current (AC). Ancillary equipment includes switch/fuse panels, control and protection equipment, and communications hardware. Additional auxiliary facilities would include lighting and security systems. In addition, a major component of the project would be the restoration of the project site to pre-project conditions once the project is no longer in use.

The electrical energy produced by the project would be conducted through the project’s substation to a proposed 230 kV gentie line and delivered to the Imperial Irrigation District (IID) at the proposed IID 230 kV Fern Substation. The project’s power would then be transmitted by the IID to the point of interconnection with the utility which has agreed to purchase the output from the solar project pursuant to a power purchase agreement (PPA).

1.1.1 Agency Roles and Responsibilities

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

1.1.1.1 County of Imperial

The solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentie traverses two privately-owned legal parcels zoned A-3. The County of Imperial (County) will be required to approve a conditional use permit (CUP) to allow for the construction and operation of the proposed project. The Imperial County Code of Ordinances Title 9,

Division 9, Division 5 (Zoning Areas Established), identifies permitted uses within various zones, as well as uses requiring a CUP.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, “Solar Energy Plants” and “Transmission lines, including supporting towers, poles microwave towers, utility substations” are uses that are permitted in the A-3 Zone, subject to approval of a CUP.

A General Plan Amendment and Zone Change will also be required to implement the proposed project. As shown on Figure 3-3, the project site is located outside of the Renewable Energy (RE) Overlay Zone. CUP applications proposed for specific RE projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment and Zone Change to include/classify the project site into the RE Overlay Zone.

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

1. **Approval of CUP.** Implementation of the solar energy project would require the approval of a CUP by the County to allow for the construction and operation of the proposed project. The solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentie traverses two privately-owned legal parcels zoned A-3. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, “Solar Energy Plants” and “Transmission lines, including supporting towers, poles microwave towers, utility substations” are uses that are permitted in the A-3 Zone, subject to approval of a CUP.
2. **General Plan Amendment.** An amendment to the City’s General Plan, Renewable Energy and Transmission Element is required to implement the proposed project. CUP applications proposed for specific RE projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. The project site is located outside of the RE Overlay Zone; therefore, the applicant is requesting a General Plan Amendment to include/classify the project site into the RE Overlay Zone. No change in the underlying general plan land use is proposed.
3. **Zone Change.** The project site is not located in the RE Overlay Zone; therefore, the applicant is requesting a zone change to include/classify the project site into the RE Overlay Zone.
4. **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 Board of Supervisors prior to making a decision on the project.

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

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits

1.1.1.2 Other Agency Reviews and/or Consultations

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.

State

California Department of Fish and Wildlife Service (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 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, Clean Water Act Section 401 Water Quality Certification, or permitting under California Porter-Cologne Act.

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 CEQA Air Quality Handbook, the final “Modified” 2009 8-hour Ozone Air Quality Management Plan, the State Implementation Plan for particulate matter less than 10 microns in diameter (PM₁₀) in the Imperial Valley, the State Implementation Plan for particulate matter less than 2.5 microns in diameter (PM_{2.5}), and 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 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 RE resources by 2010. RE sources include wind, geothermal, and solar. 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]ll 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 (CARB), under its Assembly Bill (AB) 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, SB X1-2 was signed by Governor Brown, in April 2011. This new RPS preempts the CARB’s 33 percent Renewable Electricity Standard and applies to all electricity retailers in the state including publicly-owned utilities (POU), investor-owned utilities (IOU), electricity service providers, and community choice aggregators. All of these entities had to 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.

Governor Brown signed into legislation SB 350 in October 2015, which requires retail sellers and POUs to procure 50 percent of their electricity from eligible RE resources by 2030.

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 CARB to enact standards that will reduce GHG emissions to 1990 levels by 2020. Electricity production facilities are regulated by the CARB.

Title 17 California Code of Regulations, Subchapter 10, Article 2, Sections 95100 et seq.

These CARB 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 (CAA) Amendments. These are the latest in a series of amendments made to the CAA. This legislation modified and extended federal legal authority provided by the earlier CAAs 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 Clean Water Act (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 United States (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 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 USC 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.

National Historic Preservation Act

Federal regulations (36 Code of Federal Regulations [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

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, California. 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 (442) 265-1735.

1.4.2 Public Participation Opportunities/Comments and Coordination

1.4.2.1 Notice of Preparation

The County of Imperial initially released a Notice of Preparation (NOP) for the preparation of an EIR for the VEGA SES Solar Energy Project on August 9, 2017. 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 August 6, 2017. Since the release of the original NOP, the project was slightly modified to increase the overall project size from 494 acres to 574 gross acres of land. The County of Imperial issued a revised NOP and Initial Study on November 6, 2017 to address the changes to the project. The revised NOP was also published in the Imperial Valley Press on November 5, 2017. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the project, 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:

- U.S. Customs and Border Protection (August 16, 2017)
- Native American Heritage Commission (August 25, 2017 and November 13, 2017)
- IID (August 28, 2017)
- Imperial County Air Pollution Control District (September 5, 2017)

- Department of Conservation Division of Land Resource Protection (November 16, 2017)
- California Department of Transportation (Caltrans) (December 1, 2017)

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 VEGA SES Solar Energy Project was discussed as an informational item at the County's Environmental Evaluation Committee meeting on August 24, 2017. Additionally, a scoping meeting for the general public, as well public agencies, was held on August 24, 2017 at 6:00 p.m. The meeting was held by the Imperial County Planning & Development Services (ICPDS) Department in the Board of Supervisors Chambers located at the County Administration Center at 940 Main Street, El Centro, California.

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
- GHG Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Noise and Vibration
- Public Services
- Transportation/Traffic
- Tribal Cultural Resources
- 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 of this EIR) 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 site is located on privately owned, undeveloped agricultural land. No portion of the project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the proposed project would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed project would not impact forestry resources.

Mineral Resources

The project site is 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 site nor does the project site contain mapped mineral resources. As such, the proposed project would not adversely affect the availability of any known mineral resources. Therefore, no impact is identified for mineral resources.

Recreation

The proposed project 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 project does not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

Population/Housing

The project site is currently used for agricultural production. Development of housing is not proposed as part of the project. The facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. The proposed project would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal. Therefore, no impact is identified for population and housing.

Public Services (Schools, Parks and Other Facilities)

The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project 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 project 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 project 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 site (such as Operations and Maintenance [O&M] buildings); therefore, there would be no wastewater generation from the proposed project. The proposed project would not exceed wastewater treatment requirements of the RWQCB. The proposed project is 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 project 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 site. A less than significant impact is identified for these issue areas.

During construction and operation of the project, 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 California Department of Resources Recycling and Recovery (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 1.8 million cubic yards of remaining capacity and is estimated to remain in operation through 2077 (CalRecycle n.d. (a)). 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 (CalRecycle n.d. (b)). 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 project would generate solid waste during construction and operation, it 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 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 the project, areas of concern and issues to be resolved include potential impacts related to agricultural resources, glint and glare, and water supply.

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.

- The **Executive Summary** provides a summary of the proposed project, including a summary of project impacts, mitigation measures, and project alternatives.
- **Chapter 1 Introduction** provides a brief introduction of the proposed project; 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 Environmental Setting** provides a description of the physical characteristics of the proposed project.
- **Chapter 3 Project Description** provides a description of the VEGA SES Solar Energy Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for implementation of the project.
- **Chapter 4 Environmental Analysis** provides an analysis of the environmental impacts of the project for the following environmental issues: aesthetics and visual resources; agricultural resources; air quality; biological resources; cultural resources; geology and soils; greenhouse gas (GHG) emissions; hazards and hazardous materials; hydrology/water quality; land use/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 Analysis of Long-Term Effects** provides an analysis of growth inducing impacts, significant irreversible environmental changes, and unavoidable adverse impacts.



- **Chapter 6 Cumulative Impacts** discusses the impact of the proposed project in conjunction with other planned and future development in the surrounding areas.
- **Chapter 7 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 Alternatives** analyzes the alternatives to the proposed project.
- **Chapter 9 References** lists the data references utilized in preparation of the EIR.
- **Chapter 10 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.

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2 Environmental Setting

2.1 Location of Project

The proposed project is located approximately 9 miles southwest of the City of El Centro, California on privately owned, undeveloped agricultural land encompassing approximately 574 gross acres in southwestern Imperial County. The project site (physical area where proposed project components are to be located) is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road in Sections 35 and 36 of Township 16 South, Range 12 East (San Bernardino Baseline and Meridian), and Section 1 of Township 16 -1/2 South, Range 12 East.

2.2 Physical Characteristics

2.2.1 Aesthetics and Visual Resources

The surrounding area is predominantly flat as most of the land has been leveled to facilitate irrigation. Numerous canals, ditches, and drains owned by the Imperial Irrigation District are located throughout the project site and surrounding area providing irrigation water and drainage to the individual fields.

Agricultural fields, earthen berms, existing utility-scale solar energy facilities, and overhead utility lines dominate the scenery in the project area. The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. The existing Imperial Valley Substation is located approximately 1 mile southwest of the project site. The Imperial Valley Substation and the numerous transmission lines are readily visible throughout this area and are located in Utility Corridor N. The purpose of Utility Corridor N is to allow a designated area within the Bureau of Land Management (BLM) lands for utility structures, such as transmission lines and to group them together in one area rather than allow them to be scattered throughout BLM lands.

2.2.2 Agricultural Resources

The proposed project would be developed within and adjacent to productive agricultural and developed lands. Much of the land base in the vicinity of and within the project area is considered productive farmland where irrigation water is available. Farming operations in this area generally consist of medium to large-scale crop production with related operational facilities. Crops generally cultivated in the area may include alfalfa, barley, and/or Bermuda grass in any given year.

According to the Important Farmland maps prepared by the California Department of Conservation (DOC) (California DOC 2016a) and as shown on Figure 4.2-1 (Section 4.2), the project site contains Prime Farmland and Farmland of Statewide Importance. Similar to the southwestern portion of Imperial County near the U.S./Mexico border, undeveloped agricultural lands in the project vicinity are currently transitioning to renewable energy developments (Campo Verde solar facility, Imperial Solar Energy Center West).

2.2.3 Air Quality

The project site is located in the Salton Sea Air Basin (SSAB) under the jurisdiction of the Imperial County Air Pollution Control District (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 U.S. 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, PM₁₀, and PM_{2.5}. Imperial County is classified as a “serious” nonattainment area for PM₁₀ for the National Ambient Air Quality Standards (NAAQS). On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle (PM_{2.5}) NAAQS 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 County and it has been determined that the proposed project is located within the nonattainment boundaries for PM_{2.5}. On April 10, 2014, the CARB gave final approval to the 2013 Amendments to Area Designations for California Ambient Air Quality Standards (CAAQS). 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.

2.2.4 Biological Resources

The project site contains the following vegetation communities or land cover types: agricultural land and developed/disturbed land. No state or federally-listed wildlife species were observed on the project site and because of the lack of suitable habitat for these species, none are expected to occur. One special-status wildlife species, burrowing owl, was observed within the project site. The biological study area contains habitat with a moderate to high potential to support four other special-status wildlife species known to occur in the region: flat-tailed horned lizard (*Phrynosoma mcallii*), mountain plover (*Charadrius montanus*), vermilion flycatcher (*Pyrocephalus rubinus*), and Yuma hispid cotton rat (*Sigmodon hispidus eremicus*).

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 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 to 1821) and a fort (Mexican period 1821 to 1848) are still evident in regions throughout the county (ICPDS 1993).

2.2.6 Geology and Soils

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.

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 site is the potential for strong groundshaking because of 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.

2.2.7 Greenhouse Gas Emissions

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. Human-caused sources of CO₂ include combustion of fossil fuels (coal, oil, natural gas, gasoline, and wood). Data from ice cores indicate that CO₂ concentrations remained steady prior to the current period for approximately 10,000 years. Concentrations of CO₂ have increased in the atmosphere since the industrial revolution. CH₄ 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 N₂O 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 site primarily include CO₂ and N₂O from farm equipment and local traffic.

2.2.8 Hazards and Hazardous Materials

The project site is located in a historical agricultural area of Imperial County. Agricultural operations include the use of aboveground storage tanks (AST) and underground storage tanks (UST) for fuel storage, transmission facilities, intricate canal systems, the confluence of major surface arteries and rail systems, and the use of fertilizers and herbicides. Although a hazardous material accident can occur almost anywhere, particular regions are more vulnerable. 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 material.

According to the Phase I Environmental Site Assessment (ESA) prepared for the project, no evidence of operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products were observed on the project site. There was no visual evidence of current underground storage tanks or historical presence of aboveground storage tanks observed on the project site. The project site has been used for and is currently in agricultural production. Consequently, there is a potential for the project site to contain hazards related to pesticide and herbicide use from aerial and/or ground application.

2.2.9 Hydrology/Water Quality

The project site is located 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 project site is 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) and Amos-Ogilby (726.00). The project site is located within the Imperial HU and Brawley Hydrologic Area (California RWQCB 2017).

2.2.10 Land Use/Planning

The proposed project is located on privately owned, undeveloped agricultural land. The project site is designated as Agriculture under the County's General Plan. The solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentie originates at the project's substation at the southwest corner of the solar energy facility site and traverses two privately-owned legal parcels zoned A-3.

The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. The project is generally located east of the Westside Main Canal. The existing Imperial Valley Substation is located approximately 1 mile southwest of the project site. There are no established residential neighborhoods immediately adjacent to the project site. There are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road.

2.2.11 Noise and Vibration

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 site, the existing noise environment is generally influenced by the noise produced from the following sources:

- Vehicle traffic along roadways including Drew Road, Westside Road, and I-8
- Agricultural operations throughout the project area including the operation of heavy equipment and vehicles

2.2.12 Public Services

The project site is located in unincorporated Imperial County, southwest of the City of El Centro. The project site is located within the Imperial County Fire Department and Office of Emergency Services (ICFD/OES) and the Imperial County Sheriff Department's areas of service.

2.2.13 Transportation/Traffic

The project site is located within the County of Imperial on privately owned, undeveloped agricultural land collectively encompassing 574 gross acres approximately 9 miles southwest of El Centro, California. The surrounding roadways include Wixom Road, Drew Road, Mandrapa Road, and Lyons Road. The existing circulation system is discussed further in Section 4.13, Transportation/Traffic.

2.2.14 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 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.

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3 Project Description

Chapter 3 provides a description of the VEGA SES Solar Energy Project. This chapter also defines the goals and objectives of the proposed project, provides details regarding the individual components that together comprise the project, and identifies the discretionary approvals required for project implementation.

The project consists of three primary components: 1) solar generation equipment and associated facilities (herein referred to as “solar energy facility”); 2) battery storage system; and, 3) above ground 230 kV generator intertie (herein referred to as “gentie”) that will deliver the electrical energy produced by the project to the proposed IID 230 kV Fern Substation. The solar energy facility, battery storage system and gentie are collectively referred to as the “proposed project” or “project.”

3.1 Location of Project

The proposed project is located approximately 9 miles southwest of the City of El Centro, California on privately owned, undeveloped agricultural land encompassing approximately 574 gross acres in southwestern Imperial County (Figure 3-1). The project site (physical area where proposed project components are to be located) is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road in Sections 35 and 36 of Township 16 South, Range 12 East (San Bernardino Baseline and Meridian), and Section 1 of Township 16 -1/2 South, Range 12 East. Figure 3-2 illustrates the project site.

3.1.1 Solar Energy Facility

As depicted on Figure 3-2, the solar energy facility site is comprised of five parcels that are contiguous with each other. Table 3-1 identifies the individual assessor parcel numbers (APN) with their respective acreage and zoning. The solar energy facility site is also located in proximity to existing and planned renewable energy infrastructure including other developed or proposed solar PV projects, the existing Imperial Valley Substation located to the southwest, and the proposed IID 230 kV Fern Substation located immediately east of the project site.

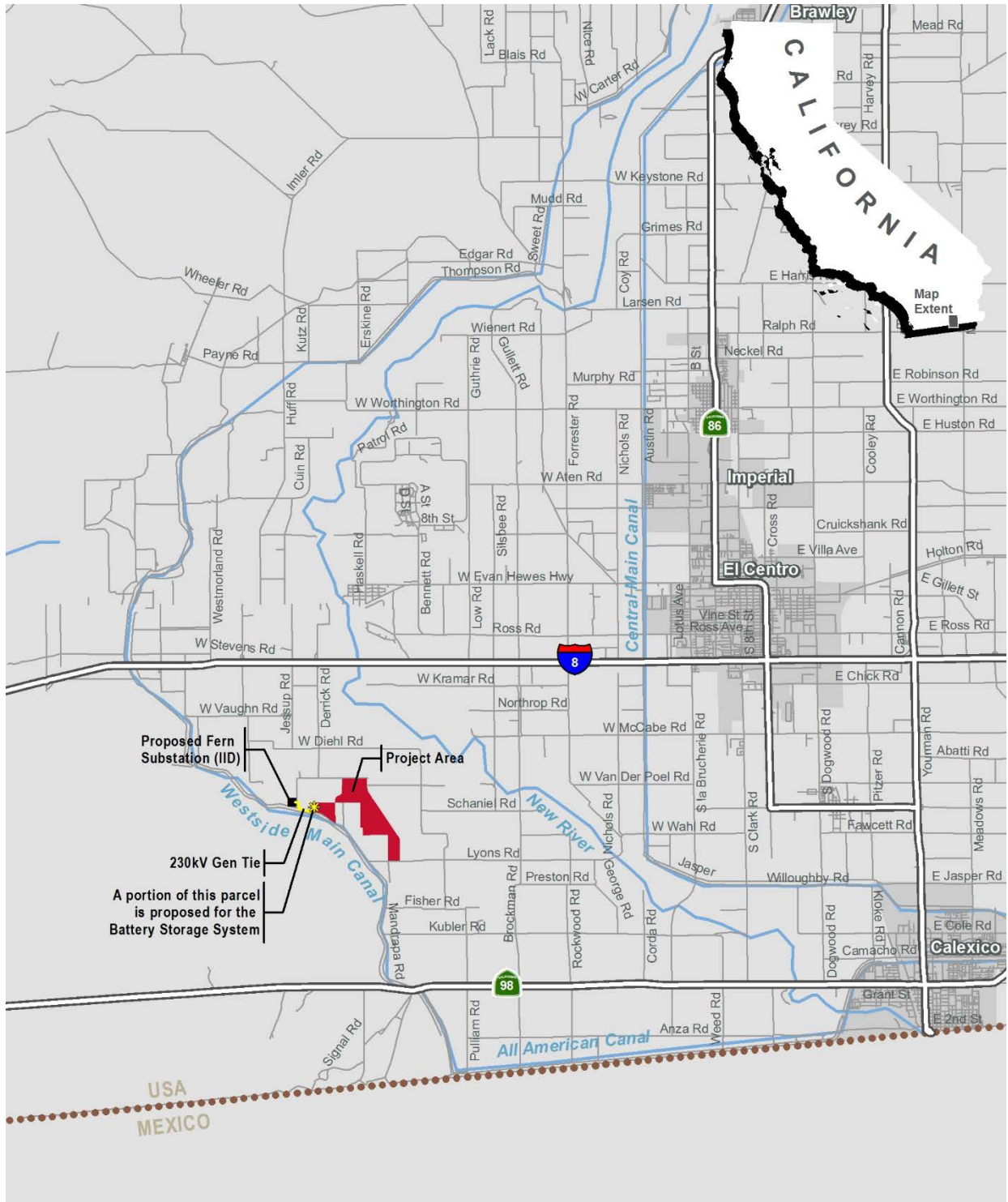
3.1.2 Battery Storage System

As depicted on Figure 3-2 (and subsequently Figure 3-4 and Figure 3-5 (site plan)), the project includes a battery storage system on APN 051-360-021. The system would be comprised of approximately 17-20 storage containers, similar to standard shipping containers, placed in a uniform manner in this portion of the project site.

3.1.3 Gentie Line

The electrical energy produced by the project would be conducted through the project’s substation to a proposed above ground 230 kV gentie line and delivered to the IID at the proposed IID 230 kV Fern Substation. The proposed gentie originates at the project’s substation at the southwest corner of the solar energy facility site and traverses east across APNs 051-350-015 and 051-350-017 where it would connect to the Fern Substation (APN 051-350-019). These parcels are zoned A-3 (Heavy Agriculture).

Figure 3-1. Regional Location

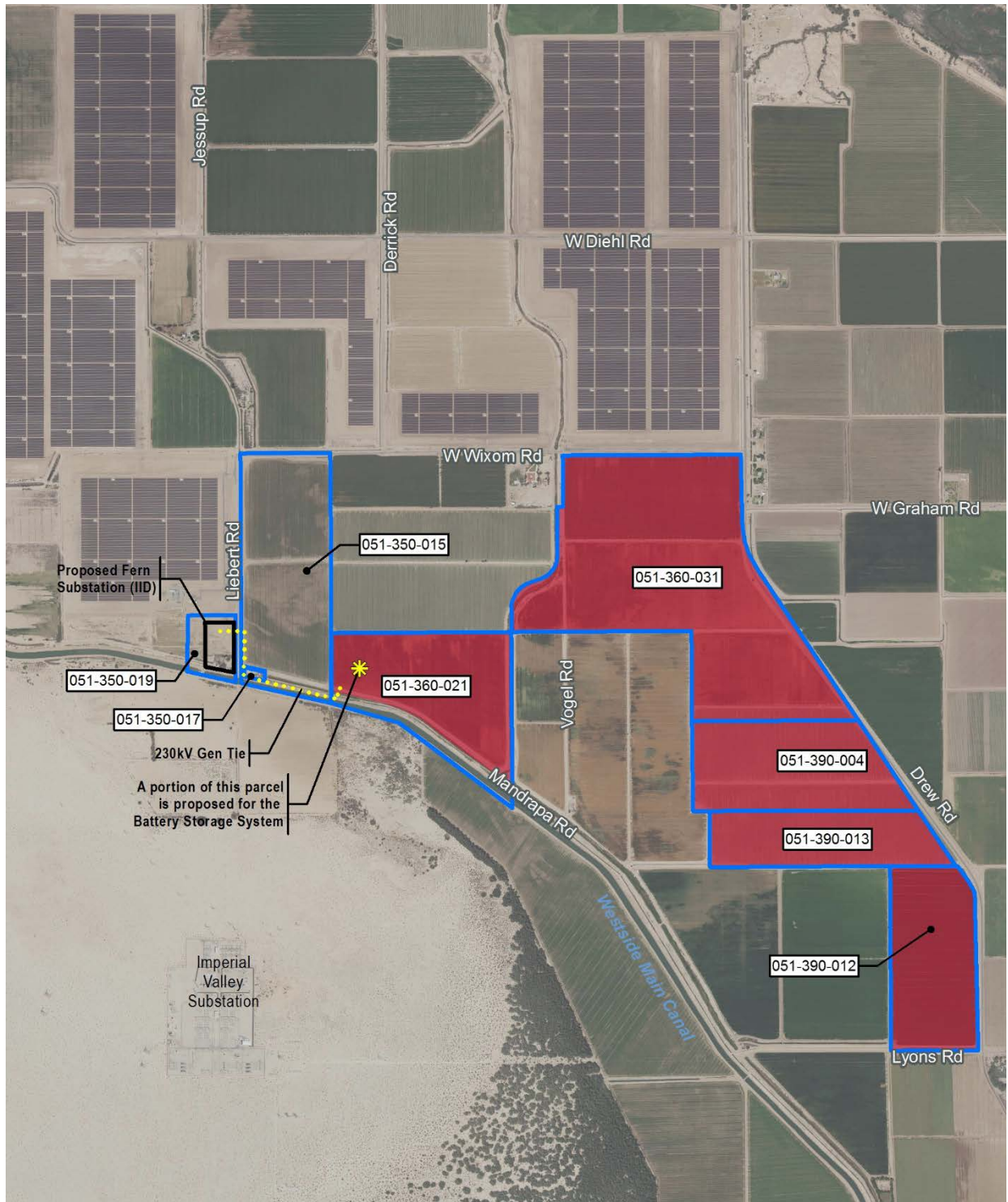


LEGEND

- Project Area
- Proposed Fern Substation (Imperial Irrigation District)
- Proposed 230kV Gen Tie
- Battery Storage System (approximate location – See Figures 3-4 and 3-5)



Figure 3-2. Project Site



LEGEND

- Solar Energy Facility
- Assessor Parcels
- 230kV Gen Tie
- Proposed Substation (Imperial Irrigation District [IID])
- Battery Storage System (approximate location)

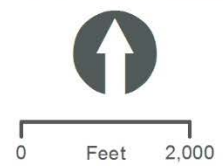


Table 3-1. Solar Energy Facility Site Assessor Parcel Numbers, Acreages, and Zoning

APN	Acreage	Zoning
051-360-021	100.89	A-3
051-360-031	243.37	A-2/A-2R
051-390-004	87.16	A-2/A-2R
051-390-012	80.70	A-2
051-390-013	62.40	A-2/A-2R
Total Gross Acres	574.52	--

A-2 = General Agriculture; A-2R = General Agricultural Rural; A-3 = Heavy Agriculture; APN = assessor parcel number

3.1.4 Renewable Energy Overlay Zone

In 2016, the County adopted the Imperial County Renewable Energy and Transmission Element, which includes a Renewable Energy Zone (RE Overlay Map). 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.

The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact to other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.

The County’s General Plan and Land Use Ordinance allows that for renewable energy projects proposed on land classified in a non-RE Overlay zone, that the land on which the project is located may be included/classified in the RE Overlay Zone if the renewable energy project: 1) would be located adjacent to an existing RE Overlay Zone; 2) is not located in a sensitive area; 3) is located in proximity to renewable energy infrastructure; and, 4) and would not result in any significant environmental impacts.

As shown on Figure 3-3, the project site is located outside of the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment and Zone Change to add the project site to the County’s RE Overlay Zone. No land use amendment is requested, and the underlying “Agriculture” General Plan designation would remain.

3.2 Project Objectives

The primary objective of the project 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 County identified the following objectives for the project:

- Construct and operate a solar energy facility capable of producing up to 100 MW of electricity to help meet the State-mandated RPS of providing 50 percent renewable energy by 2030
- Provide a 100 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours
- Operate a facility at a location that ranks amongst the highest in solar resource potential in the nation
- Interconnect directly to the IID electrical transmission system
- 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 AB 32 (California Global Warming Solutions Act of 2006)
- Provide an investment in California and Imperial County that would create jobs and other economic benefits

3.3 Project Characteristics

The proposed project involves the construction of a 100 MW PV solar energy facility with an integrated 100 MW battery storage system on approximately 574 gross acres of land. Of the total 574 gross acres, approximately 555 acres would be developed with a ground mounted PV solar power generating system, supporting structures, on-site substation, battery storage system, and internal access roads. The project 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, fixed-frame or HSAT support structures, and electronic/electrical equipment to convert the electricity from the PV modules from DC electricity to AC electricity and transfer the electricity to the IID's proposed Fern Substation. Ancillary equipment includes switch/fuse panels, control and protection equipment, and communications hardware. Additional auxiliary facilities would include lighting and security systems.

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 thin film or crystalline silicon materials, which will be dark in color, have low reflectivity, and be highly absorptive of the sunlight that strikes their glass surfaces. PV modules will be wired together in a mixture of series and parallel configurations and connected to DC to AC inverters and transformers located within the project site.

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 either on fixed frames or HSAT systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed frame racks would be secured at a fixed tilt of 20-25 degrees from horizontal facing a southerly direction. The current project design would have individual PV modules, each approximately 3.25 feet wide by 6.5 feet long (depending on the specific PV technology selected), mounted 2 feet high on a fixed frame, providing a 2-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. Figure 3-4 is a preliminary site plan which shows the fixed PV modules arranged in arrays spaced approximately 20 to 25 feet apart (pile-to-pile) to maximize performance and to allow access for panel cleaning. These arrays would be separated from each other and the perimeter security fence by nominal 20-foot wide roads.

If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun. At noon, or when stowed during high winds, when the HSAT system is rotated so that the PV modules are horizontal, the nominal height would be approximately 6 feet above the ground, depending on the final design.

The PV system would be arranged in large arrays by placing them in columns spaced approximately 10 feet apart to maximize operational performance and to allow access for panel cleaning and maintenance (Figure 3-5). Current project design would have individual HSAT PV modules, each approximately 2 feet wide by 4 feet long (depending on the specific PV technology selected), mounted on a frame which is attached to an HSAT system. The HSAT arrays would be separated from each other and the perimeter security fence by nominal 20-foot wide roads, consistent with agency emergency access requirements.

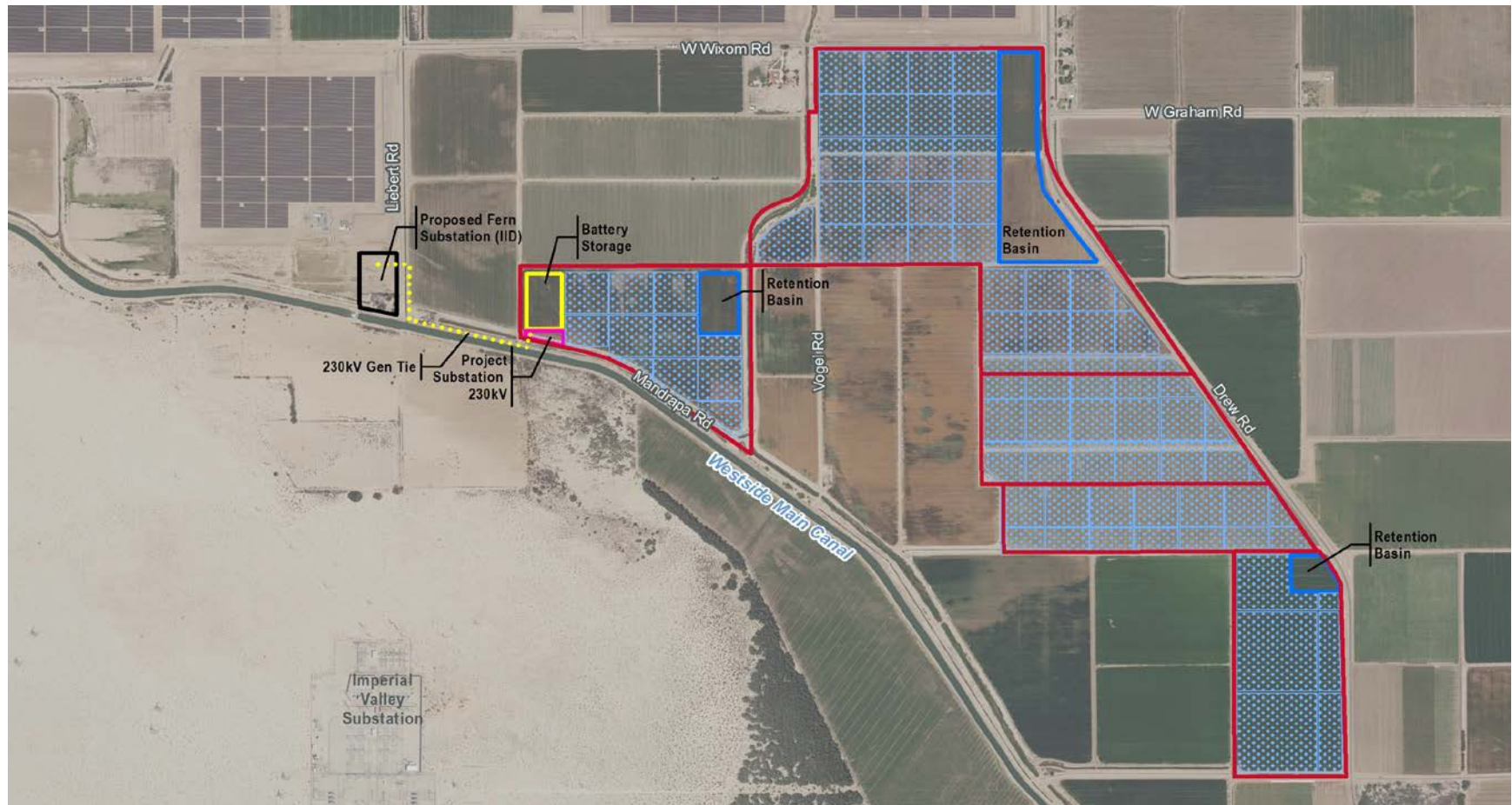
3.3.2 Electrical Power System

Electricity generated by the PV modules would be collected by a DC collection system routed underground in trenches. This DC power would be delivered to one of the pad-mounted inverters in weatherproof enclosures located within the solar arrays. The inverters would convert the DC power to three-phase AC power. The inverters could be connected to an AC interconnection facility which, if needed, would raise the voltage to 34.5 kV, or the interconnection voltage selected by the project. Underground 12.5 kV or 34.5 kV collection lines would transmit the electricity to the proposed project substation located on the southwestern edge of the solar energy facility site (Figure 3-4 and Figure 3-5).

3.3.3 Substation

As part of the proposed project, a new substation would be constructed within the project boundaries, on the southwestern edge of the solar energy facility site. The substation would take delivery of the 12.5 kV or 34.5 kV power from the project and increase the voltage of the electricity to 230 kV for metering and delivery to the IID electric grid. The substation would include a transformer, circuit breakers, meters, disconnect switches, microwave or other communication facilities and an electrical control building.

Figure 3-4. Preliminary Site Plan – Fixed Frame

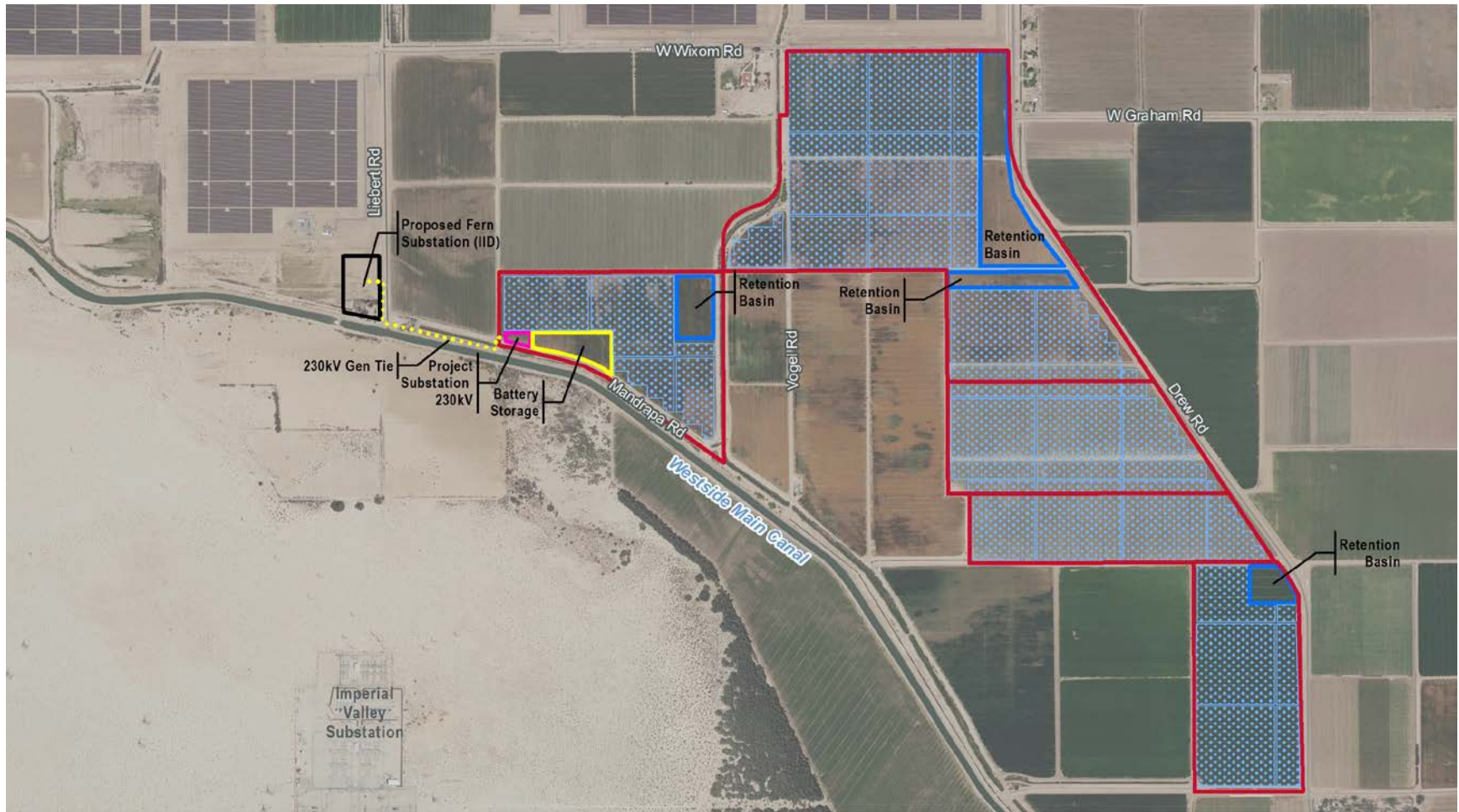


LEGEND

- | | |
|-----------------------|--|
| Solar Energy Facility | Proposed Substation (Imperial Irrigation District [IID]) |
| Battery Storage | Retention Basin |
| Project Substation | Solar Panels |
| 230kV Gen Tie | |



Figure 3-5. Preliminary Site Plan – Horizontal Single-Axis Sun Tracking System



LEGEND

- Solar Energy Facility
- Proposed Substation (Imperial Irrigation District [IID])
- Battery Storage
- Retention Basin
- Project Substation
- Solar Panels
- 230kV Gen Tie



3.3.4 Transmission Facilities

The electrical energy produced by the project would be conducted through the project's substation to a proposed above ground 230 kV gentie line and delivered to the IID at the proposed IID 230 kV Fern Substation. The project's power would then be transmitted by the IID to the point of interconnection with the utility which has agreed to purchase the output from the solar project pursuant to a PPA.

3.3.5 Battery System

The proposed battery type for the project is lithium ion. Each battery will be made of multiple cells with approximate dimensions of 45 x 125 x 174 millimeters and each weighing approximately 2.025 kilograms (less than 5 pounds). The batteries would be housed in storage containers or buildings fitted with heating, ventilation and air conditioning and fire suppression systems. Inside the housing, the batteries would be placed on racks, the orientation of which depends on the type of housing.

As shown on Figure 3-4, if fixed frame mounting is selected, the proposed battery storage system would be located in the northwest corner of APN 051-360-021. Figure 3-5 depicts the location of the proposed battery storage system if HSAT technology is selected. The system would be comprised of approximately 17-20 storage containers, similar to standard shipping containers, placed in a uniform manner in this portion of the project site. Figure 3-6 shows a typical battery storage container. Underground trenches with conduits would be used to connect the batteries to the control and monitoring systems, and inverters to convert the DC power to AC power.

3.3.6 Auxiliary Facilities

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

3.3.6.1 Site Security and Fencing

Prior to grading, 6-foot-tall security fencing would be installed around the perimeter of the solar energy site, excluding any public road that transects the site. In addition, a motion detection system and closed circuit camera system may also be installed. The solar energy facility site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security.

The solar energy facility site would include both a primary and secondary access driveway off the adjacent public or private roads. No new access across IID lateral canals or drains is expected. The project's driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facility.

Figure 3-6. Typical Battery Storage Container



Source: S&C Electric Company 2016

3.3.6.2 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. All lighting would be directed downward and shielded to confine direct rays to the project site and muted to the maximum extent consistent with safety and operational necessity (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, of the County's Zoning Ordinance). If additional lighting should be required for nighttime maintenance, portable lighting equipment would be used.

3.3.6.3 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. The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access.

3.3.6.4 Fire Protection

The project is located within the jurisdiction of the Imperial County Fire Department. Up to three 10,000 gallon fire water tanks would be constructed across the solar energy facility site and kept filled during operations for on-site fire protection. Portable fire extinguishers would be provided at various locations throughout the solar energy facility site. Both the access and service roads (along the perimeter of the solar energy facility site) 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).

3.3.7 Dust Suppression and Erosion Control

To minimize wind driven dust from the project site, all clearing, grading, and significant ground disturbing activities would be stopped during periods where the wind speed exceeds 25 miles per hour (averaged over 1 hour). Water would be the primary means of dust control and suppression but dust palliatives may also be utilized as needed.

3.3.8 Water Supply, Treatment, and Storage

Water for construction (primarily for dust control) would be obtained from local IID irrigation canals or laterals in conformance with IID construction water acquisition requirements. Water would be picked up from a nearby lateral canal and delivered to the construction location by a water truck capable of carrying approximately 4,000 gallons per load. It is estimated that up to 275 acre-feet (AF) of water would be needed for site grading and dust control over the expected construction period. 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.

Once the project is operational, water would be required for solar panel washing and fire protection. The project site is within the IID's boundary and therefore would receive water service from the IID. Water would be purchased from the IID and delivered to the project site by water trucks. The volume of water to be used for solar panel washing and dust control is estimated at up to 10 AF per year.

3.3.9 Retention Basins

The project site currently drains generally to the north-northeast at a very flat gradient (approximately 0.2 percent). To retain the total volume of a 3-inch precipitation covering the solar energy facility site with no reduction from infiltration, storm water retention basins would be constructed on the solar energy facility site. These retention basins would be emptied within 72 hours (through draining, evaporation, or infiltration, or any combination thereof) in order to provide mosquito abatement. In the unlikely event that conditions prevent removal of accumulated storm water from any of the retention basins within 72 hours, measures would be implemented to control mosquito breeding in the affected basin consistent with the requirements of the Imperial County Health Department, Environmental Health and Consumer Protection Services, Vector Control Program.

3.3.10 Operations and Maintenance

Once construction is completed, the facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds, and would be dispatched to the project site in response to a fence breach or other alarm.

Up to two to three people would be contracted (part-time) to perform 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 two times per year) to maintain power generation efficiency. The amount of water needed for solar panel washing is estimated at approximately 5 AF per washing, with up to two washings per year, or a total of up to 10 AF per year. Vegetation growing on the solar energy facility site would periodically (approximately every 3 months) be removed manually and/or treated with herbicides.

3.4 Site Construction

Construction is proposed to start in 2018 and last up to 11 months. The construction activities for the project 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/scrapper
- Roller/compactor

- Tractor/loader/backhoe
- Vibratory plate (handheld)
- Flatbed truck
- Water truck

The number of on-site construction workers for the solar facility, battery storage facility and substation is not expected to exceed 150 workers at any one time.

It is anticipated that the construction workforce would commute to the site each day from local communities. The construction worker traffic is expected to travel to the site from three directions:

- From the east via S98 (Yuha Cutoff) to Drew Road (S29), then north on Drew Road to the project site
- From the north via I-8, then south on Drew Road to the project site
- From the west via S98 to Drew Road north or I-8 to Drew Road south

Delivery trucks are expected to follow the same routes as the construction workers. 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.

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 SWPPP. A stabilized construction entrance and exit would be installed at the proposed driveway to reduce tracking of sediment onto the adjacent public roadway. Fencing, gates and communication and security systems would be installed.

With exception to the excavation required to construct the proposed retention basins, a minimal amount of surface smoothing and grading by wheeled or tracked scrapers and graders would be performed given the relatively flat topography of the project site and adaptability of the support structures. 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 site 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 fixed frame or 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 Restoration of the Project Site

Electricity generated by the facility could be sold under the terms of a PPA with a power purchaser (i.e., utility service provider). 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 may 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 site and temporary on-site haul roads would be de-compacted.
- 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.

3.6 Required Project Approvals

3.6.1 Imperial County

The County would be required to approve the following pursuant to CEQA:

1. **Approval of CUP.** Implementation of the project would require the approval of a CUP by the County to allow for the construction and operation of the solar energy generation facility with an integrated battery storage system. The solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentie traverses two privately-owned legal parcels zoned A-3. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, “Solar Energy Plants” and “Transmission lines, including supporting towers, poles microwave towers, utility substations” are uses that are permitted in the A-3 Zone, subject to approval of a CUP.
2. **General Plan Amendment.** An amendment to the County’s General Plan, Renewable Energy and Transmission Element is required to implement the proposed project. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. The project site is located outside of the RE Overlay Zone; therefore, the applicant is requesting a General Plan Amendment to include/classify the project site into the RE Overlay Zone. No change in the underlying general plan land use is proposed.
3. **Zone Change.** The project site is not located in the RE Overlay Zone; therefore, the applicant is requesting a zone change to include/classify the project site into the RE Overlay Zone.
4. **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 Board of Supervisors prior to making a decision on the project.

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

- Grading and clearing permits
- Building permits
- Reclamation plan
- Encroachment permits

3.6.2 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:

- IID – Encroachment Permit
- IID – Water Supply Agreement
- Imperial County Fire Department – Approval of Final Design of the Proposed Fire System
- Imperial County Public Works Department – Encroachment Permit
- California RWQCB – Notice of Intent for General Construction Permit
- CDFW (Trustee Agency) – CESA Compliance
- USFWS – FESA Compliance
- Imperial County Air Pollution Control District – Rule 801 Compliance

4 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.

4.1 Organization of Issue Areas

This chapter provides an analysis of impacts for those environmental topics that the County determined could result in “significant impacts,” based on preparation of an Initial Study and review by the County’s Environmental Evaluation Committee. Sections 4.1 through 4.14 discuss the environmental impacts that may result with approval and implementation of the project, and where impacts are identified, recommends mitigation measures that, when implemented, would reduce significant impacts to a level less than significant. 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 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
- The identification of any residual significant impacts following mitigation

4.2 Format of the Impact Analysis

This analysis presents the potential impacts that could occur under the project along with any supporting mitigation requirements. 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.

Changes that would result from the project were evaluated relative to existing environmental conditions within the project site as defined in Chapter 3 and illustrated in Figure 3-2. Existing environmental conditions are based on the time at which the NOP was published November 6, 2017¹. In evaluating the significance of these changes, this EIR applies thresholds of significance that have been developed using (1) criteria discussed in the CEQA

¹ The County of Imperial initially released an NOP for the VEGA SES Solar Energy Project on August 9, 2017. Since the release of the original NOP, the project was slightly modified to increase the overall project size from 494 acres to 574 gross acres of land. The County of Imperial issued a revised NOP on November 6, 2017, to address the changes to the project. Therefore, the baseline used to determine environmental impacts in this EIR is November 6, 2017.

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 project:

- *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 project 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 California Code of Regulations (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 relevant state and local plans and policies regarding the protection of scenic resources.

4.1.1 Environmental Setting

Regional

Imperial County encompasses 4,597 square miles in the southeastern portion of California. The County is bordered by Riverside County on the north, the international border of Mexico on the south, San Diego County on the west and Arizona on the east. The length and breadth of the County provide for a variety of visual resources ranging from desert, sand hills, mountain ranges, and the Salton Sea.

The desert includes several distinct areas that add beauty and contrast to the natural landscape. The barren desert landscape of the Yuha Desert, lower Borrego Valley, East Mesa, and Pilot Knob Mesa provide a dramatic contrast against the backdrop of the surrounding mountain ranges. The West Mesa area is a scenic desert bordered on the east by the Imperial Sand Dunes, the lower Borrego Valley, the East Mesa, and Pilot Knob Mesa.

The eastern foothills of the Peninsular Range are located on the west side of the County. The Chocolate Mountains, named to reflect their dark color, are located in the northeastern portion of the County, extending from the southeast to the northwest between Riverside County and the Colorado River. These mountains reach an elevation of 2,700 feet making them highly visible throughout the County.

Project Vicinity

The surrounding area is predominantly flat as most of the land has been leveled to facilitate irrigation. Numerous canals, ditches, and drains owned by the Imperial Irrigation District are located throughout the project site and surrounding area providing irrigation water and drainage to the individual fields.

Agricultural fields, earthen berms, and overhead utility lines dominate the scenery in the project area. The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. The existing Imperial Valley Substation is located approximately 1 mile southwest of the project site. The Imperial Valley Substation and the numerous transmission lines are readily visible throughout this area and are located in Utility Corridor N. The purpose of Utility Corridor N is to allow a designated area within the BLM lands for utility structures, such as transmission lines and to group them together in one area rather than allow them to be scattered throughout BLM lands.

Project Site

The proposed project is located on undeveloped agricultural land encompassing approximately 574 gross acres. The project site is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road.

Like the surrounding area, the project site is dominated by the agricultural fields, earthen berms associated with the irrigation and drainage systems, and overhead utility lines. Drew Road is the

major north-south arterial road in the area and borders the eastern limits of the solar energy facility site. Local roads (West Wixom Road, Lyons Road, Vogel Road, and Mandrapa Road) provide access to the existing agricultural fields that comprise the solar energy facility site. No residences are located within the project site. However, there are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road.

4.1.1.1 Regulatory Setting

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

State

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.

Local

Imperial County General Plan

The *Imperial County General Plan* (ICPDS 1993) 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 project would result in changes to the visual character of the project area, which is currently characterized as an agricultural landscape. As described in Section 4.1.1.2, the project site does not contain high levels of visual character or quality; therefore, the project would not result in a significant deterioration in the visual character of the project site or project area.
Objective 7.1: Encourage the preservation and enhancement of the natural beauty of the desert and mountain landscape.	Consistent	The project site is located within an agricultural portion of the County and generally avoids both desert and mountain landscapes.

Source: ICPDS 1993

4.1.1.2 Existing Conditions

A site reconnaissance was conducted to identify visual resources in the project area, including the project site. Viewpoints 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 photo-documented.

Figure 4.1-1 illustrates the photo-documented key observation points (KOP) 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. Descriptions of the KOPs are as follows:

- KOP 1: View looking north along Vogel Road.
- KOP 2: View looking northwest from Drew Road.

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.

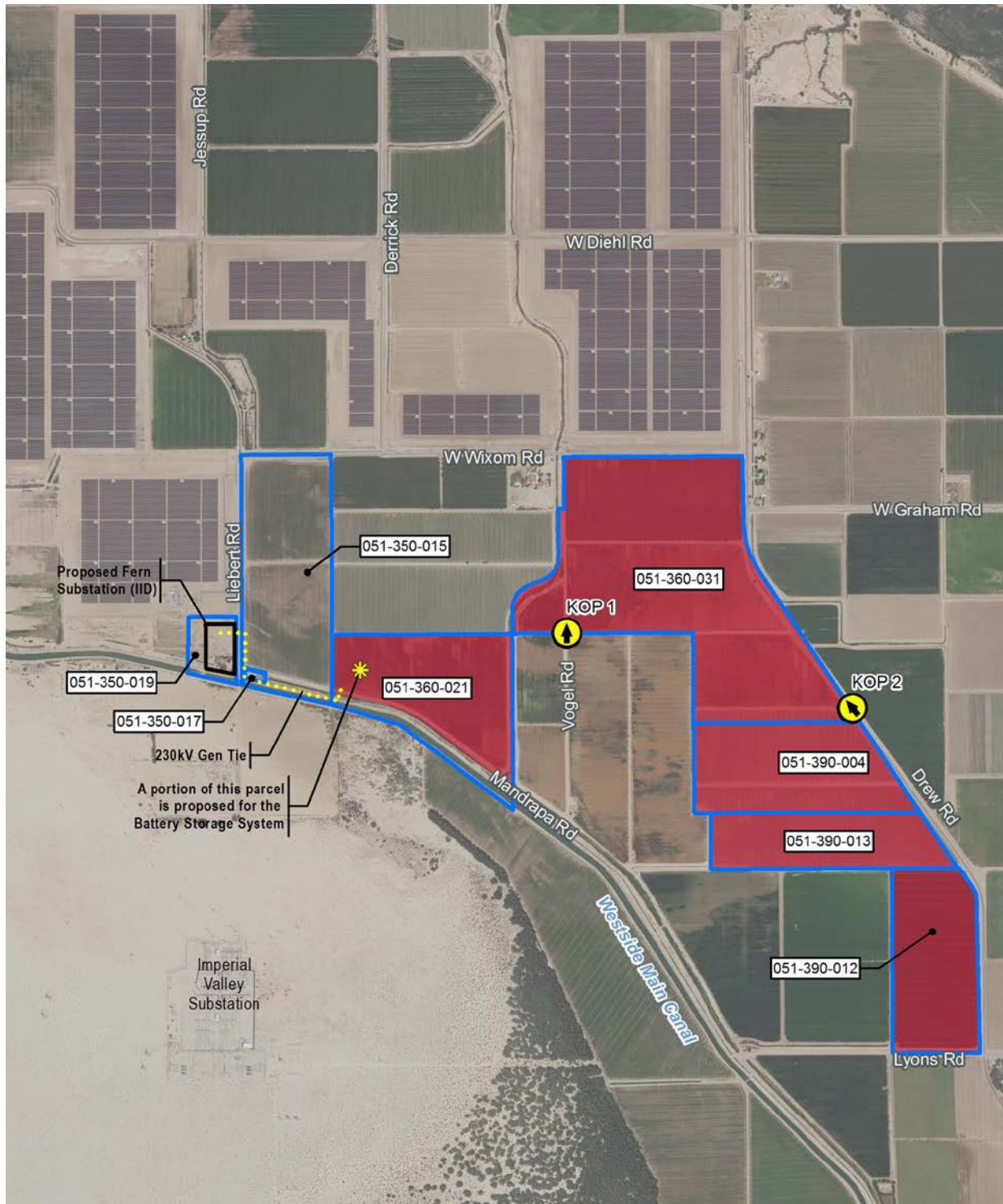
Federal Highway Administration Assessment Model

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 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 4.1-2 illustrates this FHWA methodology. The FHWA terminology definitions are listed below.

Figure 4.1-1. Key Observation Points

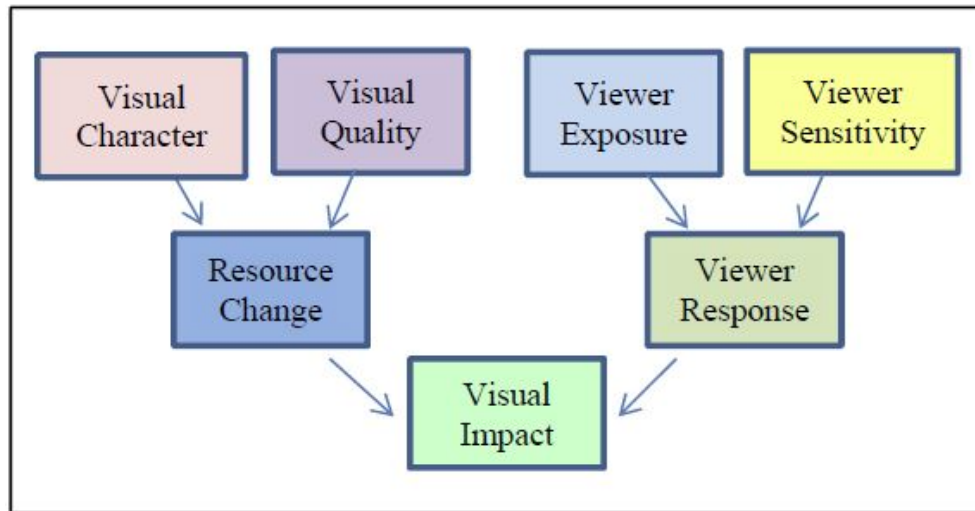


LEGEND

- Solar Energy Facility
- Assessor Parcels
- 230kV Gen Tie
- Proposed Substation (Imperial Irrigation District [IID])
- KOP Location
- * Battery Storage System (approximate location)



Figure 4.1-2. Federal Highway Administration 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 5 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 5 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.

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.

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 project as discussed further in Section 4.1.2.3, Impact Analysis.

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.

The overall character of the region and the project area is that of predominately agricultural landscapes, with a few residences to house the farming community. The area does not have a dominate feature in the surroundings because of the level terrain, which provides an uninterrupted flow and continuity to the landscape. The surrounding farms have similar crops, so there is no diversity in the pattern elements for color or texture of the landscape. Although the area possesses a continuous pattern, there is no diversity, or dominate features. This results in a low visual character of the general area.

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.

Key Observation Point 1

The landscape in the vicinity of KOP 1 is characterized by level terrain. Foreground views include cultivated agricultural fields, dirt roadways, earthen berms, agricultural support structures, and overhead utility lines. Middleground views consist of cultivated agricultural fields, dirt roadway, ruderal vegetation along the roadside, and overhead utility lines. Background views include

scattered trees, agricultural residences or support structures, and overhead utility lines. The visual quality of KOP 1 is provided below:

- **Vividness:** The foreground is characterized by typical views of cultivated agricultural fields and related structures, and existing dirt roadways. No unique or geographic features add to the vividness of KOP 1. There are no distinctive views or memorable landscape. KOP 1 is considered to have low vividness.
- **Intactness:** The landscape can be characterized as an agricultural landscape. The existing agricultural structures, utility poles, earthen berms are considered “typical” visual intrusions to the area. The visual appearance of the existing structural elements does not contribute to the human-build landscape. KOP 1 is considered to have moderately low levels of intactness.
- **Unity:** The area is predominantly agricultural, which results in a harmonious visual pattern. KOP 1 is considered to have a moderately high level of unity.

As described above, KOP 1 has low vividness, moderately low intactness, and moderately high visual unity, resulting in a moderate existing visual quality.

Key Observation Point 2

The landscape in the vicinity of KOP 2 is characterized by level terrain, scattered agricultural support structures, drain facilities, and dirt roadways. Foreground views include cultivated agricultural fields, paved roadway, and dirt roadway. Middleground views consist of cultivated agricultural field and a paved roadway. Background views include scattered trees, agricultural residences or support structures, and mountains. The visual quality of KOP 2 is provided below:

- **Vividness:** The foreground is characterized by typical views of cultivated agricultural fields and related structures, and existing paved and dirt roadways. No unique or geographic features add to the vividness of KOP 2. Air quality issues compromise the background views of the mountains. KOP 2 is considered to have low vividness.
- **Intactness:** The landscape can be characterized as an agricultural landscape. The existing agricultural structures are considered “typical” visual intrusions to the area. Because of the agricultural ground disturbing activities (plowing), particulate matter in the air is increased which compromises visibility. In addition, 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 of the mountains. The visual appearance of the existing structural elements does not contribute to the human-build landscape. KOP 2 is considered to have moderately low levels of intactness.
- **Unity:** The area is predominantly agricultural, which results in a harmonious visual pattern. KOP 2 is considered to have a moderately high level of unity.

As described above, KOP 2 has low vividness, moderately low intactness, and moderately high visual unity, resulting in a moderate existing visual quality.

The project area is identified as having low visual character, combined with a moderate level of visual quality; which results in an existing resource designation of “Medium Low” as shown in Table 4.1-2.



Table 4.1-2. Existing Visual Resource Determinations

KOP	Visual Character	+	Visual Quality	=	Existing Visual Resource
1	L		M		ML
2	L		M		ML

KOP = key observation point; L = low; M = moderate; ML = moderately low

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.

The project site can be seen by two types of sensitive viewer groups: roadway travelers and people residing and working (residential users) within or near the project area.

- Roadway Travelers:
 - Exposure: Drew Road is situated in a north/south direction and is not a heavily traveled roadway. These roadway 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. The terrain within the project area is relatively flat, which provides open space viewing opportunities. Roadway traveler’s (traveling north) awareness would be visually drawn toward the background views of the mountains to the west. Roadway traveler exposure is considered to be moderate.

- Sensitivity: The surrounding area has a limited population because of the agricultural nature and does not contain a diverse visual environment. Given the limited population in the 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. As shown on Figure 4.3-1, there are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road. Given the limited number of residences in the area, the residential viewer exposure is considered low.
 - Sensitivity: Residents are generally considered a sensitive viewer group because of 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 site 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 4.1-3 provides a summary of the FHWA viewer response ratings for the project site.

Table 4.1-3. Federal Highway Administration Viewer Response Ratings

Viewer Type	Visual Exposure	+	Visual Sensitivity	=	Existing Visual Resource
Roadway Travelers	M		L		ML
Residential Viewers	L		M		ML

L = low; M = moderate; ML = moderately low

Scenic Highways

According to the Caltrans California Scenic Highway Mapping System (Caltrans 2011), the project is not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project site.

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.

Because of 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 site 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. When light is not sufficiently screened and spills over into areas outside of a particular development area the effect is called “light trespassing.”

4.1.2 Impacts and Mitigation Measures

4.1.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to aesthetics 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
- 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, 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 value 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 of 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 significant or beneficial. For this analysis, a conservative approach was taken, and the potential for substantial change to the visual character of the project site is generally considered a significant impact.

4.1.2.3 Impact Analysis

Impact 4.1-1 Substantial Adverse Effect on a Scenic Vista.

Implementation of the project would not degrade of the visual quality of a scenic vista.

As stated in Section 4.1.1, the project site is located in the western portion of the Imperial Valley, adjacent to an agricultural landscape. The project site is not located within an area containing a scenic vista designated by the state or the County's General Plan (ICPDS 1993). 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 and gen-tie would extend along private lands, traversing the project area both west to east and north to south along local roadways. The PV modules would be mounted either on fixed frames or HSAT systems. The fixed frame PV module arrays would be mounted on racks that would be supported by driven piles. The fixed frame racks would be secured at a fixed tilt of 20 to 25 degrees from horizontal facing a southerly direction. The current project design would have individual PV modules, each approximately 3.25 feet wide by 6.5 feet long (depending on the specific PV technology selected), mounted 2 feet high on a fixed frame, providing a 2-foot ground clearance and resulting in the tops of the panels at approximately 7.5 feet above the ground. If HSAT technology is used, the PV modules would rotate around the north-south HSAT axis so that the PV modules would continue to face the sun as the sun moves across the sky throughout the day. The PV modules would reach their maximum height (up to 9 feet above the ground, depending on the final design) at both sunrise and sunset, when the HSAT is rotated to point the modules at the rising or setting sun.

The solar arrays would not create a visual obstruction for the background views of the mountains. Furthermore, because of 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 project 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 4.1-2 Substantial Adverse Effect on a Scenic Highway.

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

According to the Caltrans California Scenic Highway Mapping System (Caltrans 2011), the project is not located within a state scenic highway corridor, nor are there any state scenic highways located in proximity to the project site. Therefore, implementation of the proposed project would not result in damage to scenic resources, including, but not limited to, trees, rock outcroppings, and ridgelines within a state scenic highway. No impact is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.1-3 Changes to Visual Character.

Implementation of the project would not substantially degrade the existing visual character or quality of the project site and its surroundings.

The project consists of the construction of solar arrays, battery storage system, substation, and gentie. The project components would result in a change in the existing land use at the project site from an agricultural land use 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 project and in the context of the study area's relationship within the currently surrounding agricultural landscape.

As described in Section 4.1.1, the project site is utilized for agricultural production. No distinctive visual resources, with the exception of background views of the mountains are located within the general area. Construction of the project would alter the existing visual character of the project area and its surroundings as a result of converting existing agricultural lands to a large-scale solar energy facility. The general area is essentially flat; therefore, no substantial site grading and landform change would occur.

Although the project site would be visually disrupted in the short-term during construction because of soil disturbance activities, these activities would not be more disruptive than existing agricultural operations that also have soil disturbance activities. Because extensive grading is not required and these activities would be temporary, the visual character of the project site during construction would not be substantially degraded in the short-term and related impacts would be considered less than significant.

As discussed in Chapter 3, the major generation equipment that would be installed in conjunction with the project includes solar arrays, battery storage system, inverter modules and transformers, electrical substation, and an electrical distribution system. As described in Chapter 3, prior to grading, 6-foot-tall security fencing would be installed around the perimeter of the solar energy site, excluding any public road that transects the site.

Visual simulations were created for two key viewpoints to represent "typical views" that are associated with the project components. Figure 4.1-4 through Figure 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 (3-D) 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 because of 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 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 in Section 4.1.1.2, the existing visual resources in the area are limited to the background views of mountains to the west. No scenic resources have been identified on the project site.

Figure 4.1-3 through Figure 4.1-8 illustrate the visual changes from two perspective viewpoints. The visual simulations show the solar arrays mounted either on a fixed frame (Figure 4.1-4 and Figure 4.1-7) or HSAT system (Figure 4.1-5 and Figure 4.1-8). The changes from the existing

condition to the proposed condition would have a significant visual change from agricultural fields to a solar farm facility. As stated in the Existing Conditions, Section 4.1.1.2, the site has 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 project site is located in proximity to existing and planned renewable energy infrastructure including other developed or proposed solar PV projects, the existing Imperial Valley Substation located to the southwest, and the proposed IID 230 kV Fern Substation located immediately east of the project site. Considering the existing visual character of the area is considered low and the surrounding area is currently transitioning in many areas from agriculture to utility scale solar development, the construction of the proposed project would be consistent with current and planned development patterns and types in the area. Furthermore, 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 proposed IID 230 kV Fern Substation would be similar to the existing conditions in the area.

The viewer response ratings as identified in Table 4.1-4, 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 because of the construction of the project, these changes would have a less than significant impact on the existing on-site visual character.

Table 4.1-4. Summary of Key View Ratings

KOP	Existing Visual Resource	Viewer Response	+	Resource Change	+	Visual Impact
1	ML	ML		ML		ML
2	ML	ML		ML		ML

KOP = key observation point; ML = moderately low

Mitigation Measure(s)

No mitigation measures are required.

Figure 4.1-3. Existing View at Key Observation Point 1 (Looking North along Vogel Road)



Figure 4.1-4. Key Observation Point 1 – Project View Simulation (Photovoltaic Modules Mounted on Fixed Frames)



Figure 4.1-5. Key Observation Point 1 – Project View Simulation (Photovoltaic Modules Mounted on Horizontal Single-Axis Tracker System)



Figure 4.1-6. Existing View at Key Observation Point 2 (Looking Northwest from Drew Road)



Figure 4.1-7. Key Observation Point 2 – Project View Simulation (Photovoltaic Modules Mounted on Fixed Frames)



Figure 4.1-8. Key Observation Point 2 – Project View Simulation (Photovoltaic Modules Mounted on Horizontal Single-Axis Tracker System)



Impact 4.1-4 New Sources of Nighttime Lighting and Glare.

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

As described in Chapter 3, the project would include new sources of nighttime lighting. In addition, given the nature of the project (e.g., solar facility), 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 (Title 9, Division 17, Chapter 2: Specific Standards for all Renewable Energy Projects, 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 project is 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 project would not result in a significant glint or glare impact on motorists driving on I-8. The project site is located approximately 2.33 miles south of I-8 and the views to the project site from I-8 are limited or otherwise unavailable because of the distance. Furthermore, the project would involve the installation of PV solar systems, which convert sunlight directly into electricity, and by their shear nature, have low reflectivity. 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 Engineering 2017). Therefore, the PV panels would not create a significant source of glare during sunlight hours.

The project would not use other reflective materials such a fiberglass, aluminum or vinyl/plastic siding, galvanized products, and brightly painted steel roofs that have the potential to create on- and off-site glare. The exterior of the proposed battery storage metal containers would be painted to minimize the potential for glare.

Furthermore, given the project's distance from the Naval Air Facility El Centro of 6.5 miles to the northeast, the project 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

4.1.3.1 Decommissioning/Restoration

The project site 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 site 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 site would not be substantially degraded in the short-term and related impacts would be less than significant.

4.1.3.2 Residual

Impacts related to glare and glint impacts on 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 a 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 project would not result in residual significant immitigable impacts on the visual character of the project area or add substantial amounts of light and glare.

4.2 Agricultural Resources

This section provides an overview of existing agricultural resources within the project site and identifies applicable federal, state, and local policies related to the conservation of agricultural lands (Section 4.2.1). This includes a summary of the production outputs, soil resources, and adjacent operations potentially affected by the project. The impact assessment in Section 4.2.2 provides an evaluation of potential impacts on agricultural resources based on criteria derived from the 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 a land evaluation site assessment (LESA) for the VEGA SES Solar Project in October 2017, which is included in Appendix B of this EIR.

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

4.2.1 Environmental Setting

Agriculture has been the single most important economic activity of Imperial County throughout the 1900s, and is expected to play a major economic role in the foreseeable future. The gross annual value of agricultural production in the County has hovered around \$1 billion for the last several years, making it the County's largest source of income and employment.

Imperial County agriculture is a major producer and supplier of high quality plant and animal foods and non-food products. In 2016, agriculture contributed a total of \$4.50 billion to the county economy. Vegetable and melon crops were the single largest production category by dollar value (\$1.01 billion), comprising 48.8 percent of the county total. At 22.7 percent, livestock represented the second largest category (\$468.2 million) and consisted mostly of feedlot cattle (\$400.6 million). Field crops ranked third with \$381.2 million and 18.5 percent. Together, these three categories accounted for 89.9 percent of the county's direct farm production values (Imperial County Agricultural Commissioner 2017).

4.2.1.1 Regulatory Setting

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

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 10-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 10 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 because of 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 2016/2017 Imperial County Williamson Act Map produced by the California DOC's Division of Land Resource Protection, the project site is not located on Williamson Act contracted land (California DOC 2016b).

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 site is not located on FSZ-contracted land.

California Farmland Mapping and Monitoring Program

The California 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, as defined below, and uses a minimum mapping unit size of 10 acres.

- Prime Farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- Unique Farmland consists of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or

vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- Farmland of Local Importance is land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities.
- Urban and Built-up Land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, prisons, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures.
- Water is defined as perennial water bodies with an extent of at least 40 acres.
- Other Land is land not included in any other mapping category. Common examples include low density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined animal agriculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. More detailed data on these uses is available in counties containing the Rural Land Use Mapping categories.

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 2 years. Table 4.2-1 provides a summary of agricultural land within Imperial County converted to non-agricultural uses during the time frame from 2010 to 2012.

Table 4.2-1. Imperial County Change in Agricultural Land Use Summary (2010-2012)

Land Use Category	Total Acreage Inventoried		2010-2012 Acreage Changes			
	2010	2012	Acres Lost (-)	Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	194,136	192,951	1,597	412	2,009	-1,185
Farmland of Statewide Importance	307,221	305,614	2,441	834	3,275	-1,607
Unique Farmland	2,141	2,074	82	15	97	-67
Farmland of Local Importance	35,773	37,687	1,273	3,187	4,460	1,914
Important Farmland Subtotal	539,271	538,326	5,393	4,448	9,841	-945
Grazing Land	0	0	0	0	0	0

Table 4.2-1. Imperial County Change in Agricultural Land Use Summary (2010-2012)

Land Use Category	Total Acreage Inventoried		2010-2012 Acreage Changes			
	2010	2012	Acres Lost (-)	Gained (+)	Total Acreage Changed	Net Acreage Changed
Agricultural Land Subtotal	539,271	538,326	5,393	4,448	9,841	-945
Urban and Built-Up Land	28,487	28,790	15	318	333	303
Other Land	460,001	460,643	319	961	1,280	642
Water Area	749	749	0	0	0	0
Total Area Inventoried	1,028,508	1,028,508	5,727	5,727	11,454	0

Source: California DOC 2015

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.

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 because of 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 (ICPDS 1993).

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 on 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 these criteria should not be approved.

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

4.2.1.2 Existing Conditions

Important Farmland

According to the farmland maps prepared by the California DOC (California DOC 2016a) and as shown on Figure 4.2-1, the project site contains Prime Farmland and Farmland of Statewide Importance. As shown on Figure 4.2-1, the project site is primarily designated as Prime Farmland.

The northern edge of the project is designated as Farmland of Statewide Importance. The majority of the proposed 230 kV gentie line is located on land designated as Other Land.

Agricultural Cropping Patterns

The proposed project would be developed adjacent to productive agricultural and developed lands. Much of the land base in the vicinity of and within the project area is considered productive farmland where irrigation water is available. Farming operations in this area generally consist of medium to large-scale crop production with related operational facilities. Crops generally cultivated in the area may include alfalfa, barley, and/or Bermuda grass in any given year. Row and vegetable crops, such as corn, melons, and wheat, are also prominent in the area.

Table 4.2-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
<p>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.</p>	<p>Consistent</p>	<p>The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses, however, as part of the project, a reclamation plan when the project is decommissioned at the end of its life spans will be utilized. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, battery storage systems, transformers and other structures on the site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Prime Farmland or Farmland of Statewide Importance to non-agricultural uses.</p>
<p>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.</p>	<p>Consistent</p>	<p>The project site is designated for agriculture land use in the County General Plan. The project would include development of a solar facility and associated infrastructure adjacent to productive agricultural lands in some locations; however, the project site is located adjacent to the existing (Campo Verde Solar Project) or proposed (Laurel Cluster) utility-scale solar energy projects. Additionally, this development would not include a residential component that would induce urbanization adjacent to the projects.</p> <p>Furthermore, with the approval of a General Plan Amendment, Zone Change, and CUP, the project 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.</p>



Table 4.2-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
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	The project would include development of solar facilities adjacent to productive agricultural lands in some locations; however, the project site is located immediately adjacent to existing (Campo Verde Solar Project) or proposed (Laurel Cluster) utility-scale solar energy projects. Neither construction nor operation of the solar facility 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 project consists of the construction and operation of solar facility in an area where utility-scale facilities already exist. While these facilities will introduce development in the area, they do not include residential uses that would, in turn, create a demand for other uses such as commercial, employment centers, and supporting services. The project would be located adjacent to the existing Campo Verde solar facility.
Objective 2.3. Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Consistent	The project would temporarily convert agricultural land to non-agricultural uses. However, the project would not be subdivided into smaller parcels. A reclamation plan will be prepared for the project site, which when implemented, would return the site to pre-project conditions after the solar uses are discontinued.
Objective 2.4. Discourage the parcelization of large holdings.	Consistent	See response to Objective 2.3 above.
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	Upon approval of a CUP and zone change into the RE Overlay Zone designation, the proposed project would be an allowable use within applicable agricultural zones, and the existing zoning of the project site would be consistent with the existing General Plan land use designation.

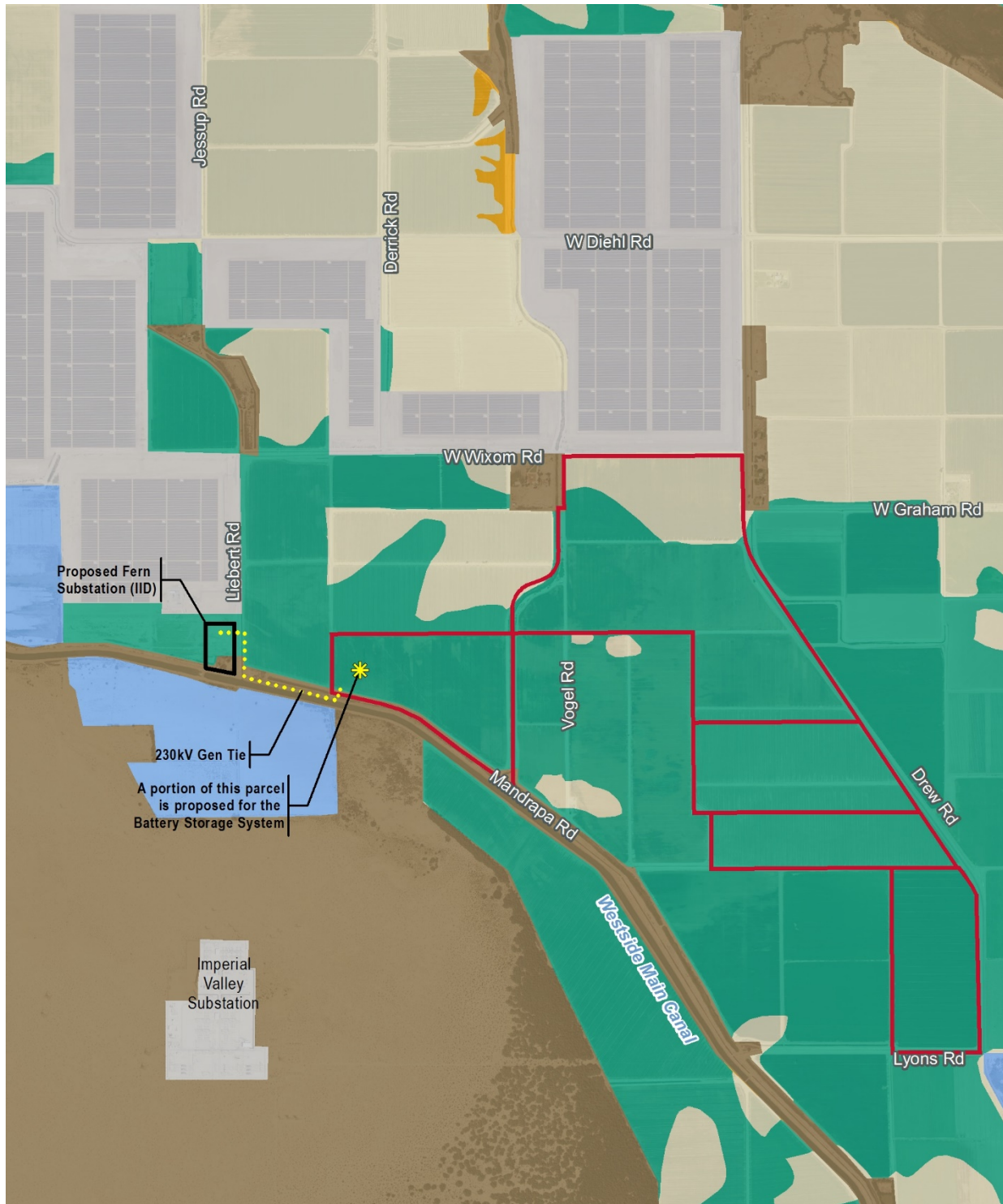
Table 4.2-2. Project Consistency with Applicable General Plan Agricultural Policies

General Plan Policies	Consistency with General Plan	Analysis
<p>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.</p>	<p>Consistent</p>	<p>Upon approval of a CUP and zone change into the RE Overlay Zone designation, the proposed project would be an allowable use within applicable agricultural zones. Additionally, the project does not include the development of housing.</p>
<p>Objective 3.2. Enforce the provisions of the Imperial County Right-to-Farm Ordinance (No. 1031).</p>	<p>Consistent</p>	<p>The Imperial County Right-to-Farm Ordinance would be enforced. Existing nuisance issues such as noise, dust, and odors from existing agricultural use would not impact the project 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.</p>
<p>Objective 3.3. Enforce the provisions of the State nuisance law (California Code Sub-Section 3482).</p>	<p>Consistent</p>	<p>The provisions of the State nuisance law would be incorporated into the project. As discussed below, 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. Mitigation Measure AG-2 requires the project applicant to develop a Pest Management Plan prior to the issuance of a grading permit or building permit (whichever occurs first).</p>

Source: County of Imperial General Plan 2015

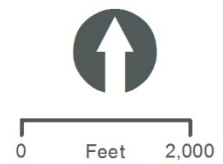
CUP = conditional use permit; RE = renewable energy

Figure 4.2-1. Farmland Mapping and Monitoring Program Designations



LEGEND

- Solar Energy Facility
- 230kV Gen Tie
- ★ Battery Storage System (approximate location – See Figures 3-4 and 3-5)
- Proposed Substation (Imperial Irrigation District [IID])
- Developed
- Farmland of Local Importance
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Other Land



Farmland Quality

To assess the quality of the project site for agricultural cultivation, the LESA model developed by the DOC was utilized for the VEGA SES Solar Energy Project. The LESA model is an approach used to rate the relative quality of land resources based upon six specific measurable features. Two land evaluation factors are based upon measures of soil resource quality. Four site assessment (SA) factors provide measures of a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands.

Results obtained from the LESA model closely correlate with Important Farmland Maps produced by the DOC's FMMP. The maps for Imperial County indicate that a majority of the project site is comprised of Prime Farmland (approximately 490.64 acres), Farmland of Statewide Importance (approximately 59.05 acres), and Other Land (approximately 5.39 acres). These farmland designations are illustrated on Figure 4.2-1.

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 United States Department of Agriculture (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 LESA prepared for the project, the majority of the project site is rated as Class I-II (approximately 430.4 acres) and a part of the project site is rated as Class III (approximately 139.1 acres).

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 LESA prepared for the project, the Storie Index for soil resources within the project site is generally classified as Grade 2 (Good) and Grade 3 (Fair) with the northern area of the project classified as Grade 4 (Poor).

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 FMMP 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, because of their location or nature, could individually or cumulatively result in loss of economically viable Farmland, to non-agricultural uses
- Impair agricultural productivity of the project site or use of neighboring areas

4.2.2.2 Methodology

This analysis evaluates the potential for the project, as described in Chapter 3, Project Description, to adversely impact agricultural resources within the project site 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, a LESA has been prepared for the project site. This report is included as Appendix B of this EIR. The analysis prepared for this EIR also relied on Important Farmland and Williamson Act maps for Imperial County produced by the California DOC's Division of Land Resource Protection. A combination of these sources was used to determine the agricultural significance of the lands in the project site.

Additionally, potential conflicts with existing agricultural zoning, incompatibility with existing Williamson Act contracts, or other changes resulting from the implementation of the project, 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, and zoning ordinance. Additional background information on land uses was obtained through field review and consultation with appropriate agencies. The conceptual site plan for the project (Figure 3-4 and Figure 3-5) was also used to evaluate potential impacts.

4.2.2.3 Impact Analysis

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

Implementation of the project would result in the conversion of economically viable Important Farmland, including Prime Farmland and Farmland of Statewide Importance, to non-agricultural uses.

Implementation of the project would result in the temporary conversion of approximately 555 acres of land currently under or available for agricultural production to non-agricultural uses. Approximately 490.64 acres of the project site is classified as Prime Farmland with approximately 59.05 acres is identified as Farmland of Statewide Importance. The loss of agricultural land designed Prime Farmland and Farmland of Statewide Importance is typically considered a significant impact under CEQA.

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 project is provided in Table 4.2-3. As shown, the LESA score for the project supports the farmland designations as identified in the FMMP. Therefore, their conversion to non-agricultural use, albeit temporary, is considered a significant impact. Implementation of Mitigation Measures AG-1a and AG-1b would reduce this impact to a level less than significant.

Table 4.2-3. Land Evaluation Site Assessment Score

LESA Score	LE Factors ¹	SA Factors ²	Significant?
72.05	36.05	36.00	Yes

Source: Appendix B of this EIR

Notes: 1. LE includes soil LCC and Storie Index.

2. SA factors include water availability, project size, and Surround Agricultural Land & Surrounding Protected Resource Land.

LE = land evaluation; LESA = land evaluation site assessment; SA – site assessment

Mitigation Measure(s)

AG-1a **Payment of Agricultural and Other Benefit Fees.** One of the following options included below is to be implemented prior to the issuance of a grading permit or building permit for the project:

Mitigation for Non-Prime Farmland

Option 1: *Provide Agricultural Conservation Easement(s).* The Permittee shall procure Agricultural Conservation Easements on a “1 on 1” basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: *Pay Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an “Agricultural In-Lieu Mitigation Fee” in the amount of 20 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner’s office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or,



Option 3: *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that is 1) consistent with Board Resolution 2012-005; 2) the Agricultural Benefit Fee must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program, as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy.

Mitigation for Prime Farmland

Option 1: *Provide Agricultural Conservation Easement(s).* The Permittee shall procure Agricultural Conservation Easements on a “2 on 1” basis on land of equal size, of equal quality farmland, outside the path of development. The conservation easement shall meet DOC regulations and shall be recorded prior to issuance of any grading or building permits; or

Option 2: *Pay Agricultural In-Lieu Mitigation Fee.* The Permittee shall pay an “Agricultural In-Lieu Mitigation Fee” in the amount of 30 percent of the fair market value per acre for the total acres of the proposed site based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Imperial County Agricultural Commissioner’s office and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County; or,

Option 3: *Public Benefit Agreement.* The Permittee and County voluntarily enter into an enforceable Public Benefit Agreement or Development Agreement that includes an Agricultural Benefit Fee payment that is 1) consistent with Board Resolution 2012-005; 2) the Agricultural Benefit Fee must be held by the County in a restricted account to be used by the County only for such purposes as the stewardship, preservation and enhancement of agricultural lands within Imperial County and to implement the goals and objectives of the Agricultural Benefit program, as specified in the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy; the Project and other recipients of the Project’s Agricultural Benefit Fee funds; or emphasis on creation of jobs in the agricultural sector of the local economy for the purpose of off-setting jobs displaced by this Project.

Option 4: *Avoid Prime Farmland.* The Permittee must revise their CUP Application/Site Plan to avoid Prime Farmland.

AG-1b Site Reclamation Plan. The DOC has clarified the goal of a reclamation and decommissioning plan: the land must be restored to land which can be farmed. In addition to Mitigation Measure AG-1a for Prime Farmland and Non-Prime Farmland, the Applicant shall submit to Imperial County a Reclamation Plan prior to issuance of a grading permit. The Reclamation Plan shall document the procedures by which the project site will be returned to its current agricultural condition/LESA score of 72.05. Permittee shall also provide financial assurance/bonding in the amount equal to a cost estimate prepared by a California-licensed general contractor or civil engineer for implementation of the Reclamation Plan in the event Permittee fails to perform the Reclamation Plan.

Significance after Mitigation

With the implementation of Mitigation Measure AG-1a, the project applicant would be required to minimize the impact associated with the permanent loss of valuable farmlands through either provision of an agricultural conservation easement, payment into the County agricultural fee program, or entering into a public benefit agreement. Mitigation Measure AG-1b will ensure that the project applicant adheres to the terms of the agricultural reclamation plan prepared for the project site, which would address the temporary conversion impact. This mitigation measure would reduce this impact to a less than significant level.

Impact 4.2-2 Result in the Non-Renewal or Cancellation of an Active Williamson Act Contract.

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

Williamson Act Contract. According to the 2016/2017 Imperial County Williamson Act Map produced by the California DOC's Division of Land Resource Protection, the project site is not located on Williamson Act contracted land (California DOC 2016b). Therefore, the project would not conflict with a Williamson Act contract and no impact would occur.

Agricultural Zoning. The solar energy facility site would be constructed on lands zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentle traverses two privately-owned legal parcels zoned A-3. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" and "Transmission lines, including supporting towers, poles microwave towers, utility substations" are uses that are permitted in the A-3 Zone, subject to approval of a CUP.

Upon approval of a CUP and zone change into the RE Overlay Zone designation, the project's uses 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 energy facility is not expected to inhibit or adversely affect adjacent agricultural operations through the placement of sensitive land uses or generation of excessive dust or shading. 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 project could result in direct and indirect impacts on adjacent agricultural lands that could indirectly contribute to conversion of active farmland to non-agricultural use.

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 project's consistency with applicable goals and objectives is summarized in Table 4.2-2. As provided, the project is generally consistent with certain Agricultural Element Goals and Objectives of the County General Plan, but mitigation is required for the project.

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, although the project would convert lands currently under agricultural production, the project applicant is proposing agriculture as the end use and will prepare a site-specific Reclamation Plan to minimize impacts related to short- and long-term conversion of farmland to non-agricultural use. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, transformers and other structures on the site, 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 the project is 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. Additionally, the County is requiring Mitigation Measure AG-1b to ensure that post-restoration of the project facilitates result in no net reduction in Prime Farmland or Farmland of Statewide Importance.

The project 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 project. No modifications to roadways are proposed in the project site 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 project 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 project 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 project is 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)

Implementation of Mitigation Measure AG-1b.

Significance after Mitigation

With implementation of Mitigation Measure AG-1b, the project applicant would be required to adhere to the terms of the agricultural reclamation plan prepared for the project site. Implementation of Mitigation Measure AG-1b would reduce this impact to a less than significant level.

Impact 4.2-4 Adversely Affect Agricultural Productivity.

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

Agricultural productivity of the project study area could be reduced as a result of the project, even after final restoration of individual site components. The combination of planting on reintroduced, stockpiled topsoil or directly on subsoil materials could affect future cultivation of the individual site components and their associated rating under the FMMP.

As previously noted in the setting discussion, soil resources within the project area have a LCC rating ranging from I to III. Based on this classification, it can be concluded that on-site soil resources rank relatively high in terms of their suitability for agricultural cultivation (e.g., effect rooting depth, soil texture, nutrient holding capacity, etc.).

With implementation of the project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated 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). Each of these circumstances could have adverse effect on the future productivity of the restored soils. Any reductions in agricultural productivity could significantly limit the types of crops (e.g., deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. This is considered a significant impact attributable to the project. However, as indicated in Chapter 3, the project applicant will be required to implement a site reclamation plan for the project site. The reclamation plan includes restoration of the site to its pre-project condition. Implementation of Mitigation Measure AG-1b would reduce this impact to a level less than significant.

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-2 would reduce this impact to a level less than significant.



Mitigation Measure(s)

AG-2 Prior to the issuance of a grading permit or building permit (whichever occurs first), a Pest Management Plan shall be developed by the project applicant and approved by the County of Imperial Agricultural Commissioner. The project applicant shall maintain a Pest Management Plan until reclamation is complete. 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. The assistance of a licensed pest control advisor is recommended. All treatments must be performed by a qualified applicator or a licensed pest control business;
 - 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;
 - Use of "permanent" soil sterilants to control weeds or other pests is prohibited because this would interfere with reclamation;
 - Notify the Agricultural Commissioner's office immediately regarding any suspected exotic/invasive pest species as defined by the California Department of Food Agriculture and the USDA. Request a sample be taken by the Agricultural Commissioner's Office of a suspected invasive species. Eradication of exotic pests shall be done under the direction of the Agricultural Commissioner's Office and/or California Department of Food and Agriculture;
 - Obey all pesticide use laws, regulations, and permit conditions;
 - Allow access by Agricultural Commissioner staff for routine visual and trap pest surveys, compliance inspections, eradication of exotic pests, and other official duties;
 - Ensure all project employees that handle pest control issues are appropriately trained and certified, all required records are maintained and made available for inspection, and all required permits and other required legal documents are current;
 - Maintain records of pests found and treatments or pest management methods used. Records should include the date, location/block, project name (current and previous if changed), and methods used. For pesticides include

the chemical(s) used, EPA Registration numbers, application rates, etc. A pesticide use report may be used for this;

- Submit a report of monitoring, pest finds, and treatments, or other pest management methods to the Agricultural Commissioner quarterly within 15 days after the end of the previous quarter, and upon request. The report is required even if no pests were found or treatment occurred. It may consist of a copy of all records for the previous quarter, or may be a summary letter/report as long as the original detailed records are available upon request.
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:
 - 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 surrounding agricultural lands.

The project shall reimburse the Agricultural Commissioner's office for the actual cost of investigations, inspections, or other required non-routine responses to the site that are not funded by other sources.

Significance after Mitigation

With the implementation of Mitigation Measures AG-1b and AG-2, the project applicant would be required to adhere to the terms of the comprehensive reclamation plan that would restore the project site to pre-project conditions following decommissioning of the project (after their use for solar generation activities) and implement a pest management plan. Compliance with these measures would reduce this impact to a level less than significant.

4.2.3 Decommissioning/Restoration and Residual Impacts

4.2.3.1 Decommissioning/Restoration

As previously noted in the setting discussion, soil resources within the project area have a LCC rating ranging from I to III. Based on this classification, it can be concluded that on-site soil resources rank relatively high in terms of their suitability for agricultural cultivation (e.g., effect rooting depth, soil texture, nutrient holding capacity, etc.).

With implementation of the project, it is possible that the physical and chemical makeup of the soil materials within the upper soil horizon may change during construction and associated 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). Each of these circumstances could have adverse effect on the future productivity of the restored soils. Any reductions in agricultural productivity could significantly limit the types of crops (e.g., deeper rooting crops, orchards, etc.) that may be grown within the project site in the future. This is considered a significant impact attributable to the project. However, as indicated in Chapter 3, the project applicant will be required to implement a site reclamation plan for the project site. The reclamation plan includes restoration of the site to its



pre-project condition. Implementation of Mitigation Measure AG-1b would reduce this impact to a level less than significant.

4.2.3.2 Residual

With mitigation, issues related to the conversion of Important Farmland to non-agricultural use would be mitigated and reduced to a less than significant level. Operation of the project, 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 facility), the project would be decommissioned and the project site would be restored to pre-project conditions. Based on these circumstances, the project would not result in any residual significant and unmitigable impacts on 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 CEQA Guidelines and the ICAPCD's Air Quality Handbook in conjunction with actions proposed in Chapter 3, Project Description. Environmental Management Associates, Inc. (EMA) prepared the *Air Pollutant Emissions Assessment* for the proposed project. This report is included in Appendix C of this EIR.

4.3.1 Environmental Setting

Regional Setting

The project site is located in the 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 down to a winter morning minimum of 38° Fahrenheit. 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 3 days of rain in winter and 1 thunderstorm day in August. The annual rainfall in this region is less than 3 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 because of 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. Imperial County experiences unhealthy air quality from photochemical smog and from dust because of 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 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 (PM₁₀), 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 effects of these criteria pollutants.

Table 4.3-1. Health Effects of Criteria Air Pollutants

Air Pollutant	Health Effects
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.
SO ₂	Breathing problems; may cause permanent damage to lungs.
NO ₂	Lung damage, illnesses of breathing passages and lungs (respiratory system).
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.
PM ₁₀ and PM _{2.5}	Nose and throat irritation, lung damage, bronchitis, early death.
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.

CO = carbon monoxide; Pb = lead; NO₂ = nitrogen dioxide; O₃ = ozone; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than or equal to 10 microns in diameter SO₂ = sulfur dioxide

Toxic Air Contaminants

Toxic air contaminants (TAC) 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 10 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 project.

Federal

Clean Air Act

The CAA requires areas with unhealthy levels of criteria pollutants to develop State Implementation Plans (SIP) that describe how and when they will attain the 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 EPA for approval or disapproval. The EPA must provide an opportunity for public comment before taking action on each SIP submittal. If the SIP is not acceptable to the EPA, the EPA can take over enforcing the CAA in that state.

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 O₃ 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 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.

State

California Clean Air Act

The California Clean Air Act was enacted on September 30, 1988, and became effective January 1, 1989. The purpose of the California Clean Air Act 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 California Clean Air Act also classifies areas according to pollution levels. CARB establishes the CAAQS. The CCAA requires attainment of the standards at the earliest practicable date. Table 4.3-2 identifies the CAAQS.

Table 4.3-2. Ambient Air Quality Standards

Air Pollutant	Averaging Time	California Standard	National Standard
O ₃	1-hour	0.09 ppm	--
	8-hour	0.070 ppm	0.070 ppm
PM ₁₀	24-hour	50 µg/m ³	150 µg/m ³
	Mean	20 µg/m ³	--
PM _{2.5}	24-hour	--	35 µg/m ³
	Mean	12 µg/m ³	12.0 µg/m ³
CO	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
NO ₂	1-hour	0.18 ppm	100 ppb
	Mean	0.030 ppm	0.053 ppm
SO ₂	1-hour	0.25 ppm	75 ppb
	24-hour	0.04 ppm	--
Pb	30-day	1.5 µg/m ³	--
	Rolling 3-month	--	0.15 µg/m ³
Sulfates	24-hour	25 µg/m ³	No Federal Standard
Hydrogen sulfide	1-hour	0.03 ppm	
Vinyl chloride	24-hour	0.01 ppm	
Visibility-reducing particles	8-hour	Extinction coefficient of 0.23 per kilometer, visibility of 10 miles or more because of particles when relative humidity is less than 70 percent	

CO = carbon monoxide; Pb = lead; mean = annual arithmetic mean; NO₂ = nitrogen dioxide; O₃ = ozone; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than or equal to 10 microns in diameter; ppb = parts per billion; ppm = parts per million; SO₂ = sulfur dioxide; µg/m³ = micrograms per cubic meter

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 (AQMP). Because of 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 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, ICAPCD is required to submit a modified AQMP to the 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 SIP. Imperial Valley is classified as nonattainment for federal and state PM₁₀ standards. As a result, ICAPCD was required to develop a PM₁₀ Attainment Plan. The final plan was adopted by ICAPCD on August 11, 2009.

Imperial County Air Pollution Control District Rules and Regulations

ICAPCD has the authority to adopt and enforce regulations dealing with controls for specific types of sources, emissions or 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 PM₁₀ and O₃.

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.

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
- 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 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/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016) 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 project:

- 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 project complies 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, PM₁₀, and PM_{2.5}. Imperial County is classified as a "serious" nonattainment area for PM₁₀ for the NAAQS. On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle (PM_{2.5}) NAAQS 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 County and it has been determined that the proposed project is located within the nonattainment boundaries for PM_{2.5}. On April 10, 2014, the CARB Board gave final approval to the 2013 Amendments to Area Designations for CAAQS. 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.

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.

Sensitive Receptors

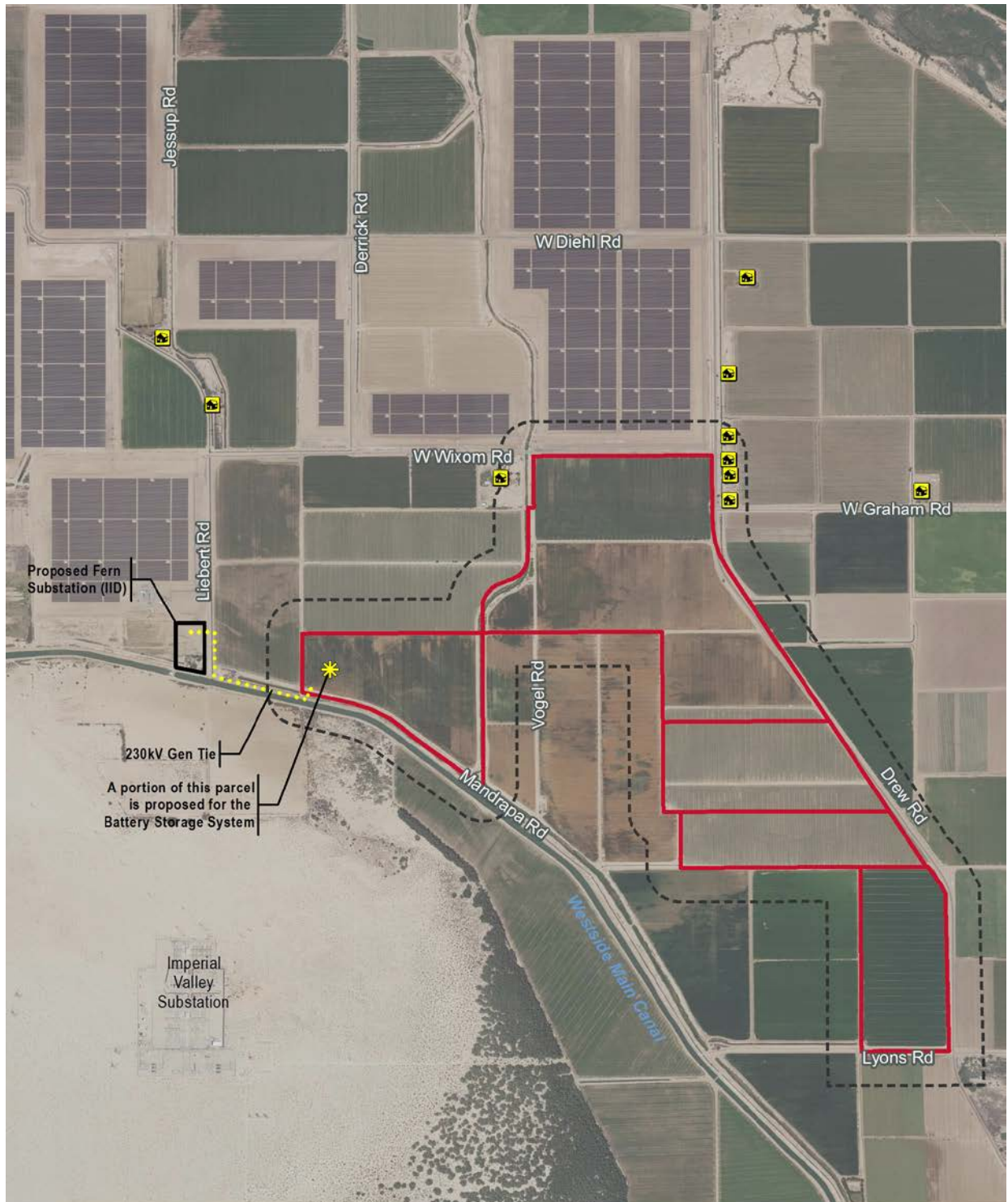
High concentrations of air pollutants pose health hazards for the general population, but particularly for the young, the elderly, and the sick. Typical health problems attributed to smog include



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. There are no established residential neighborhoods immediately adjacent to the project site, as the area is characterized as large-tracts of agricultural lands and recently developed solar facilities with rural residences sparsely located among these uses. As shown on Figure 4.3-1, there are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road.

Figure 4.3-1. Sensitive Receptors



LEGEND

- Solar Energy Facility
- 500ft Buffer from Solar Facility
- ***** 230kV Gen Tie
- * Battery Storage System (approximate location – See Figures 3-4 and 3-5)
- Proposed Substation (Imperial Irrigation District [IID])
- 🏠 Sensitive Receptor



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.

Imperial County Air Pollution Control District

ICAPCD amended the Air Quality Handbook: Guidelines for the Implementation of CEQA on December 12, 2017. ICAPCD established significance thresholds based on the state CEQA thresholds. The handbook was used to determine the proper level of analysis for the project. 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 4.3-3 presents the emission thresholds that are identified by the ICAPCD.

Table 4.3-3. Imperial County Air Pollution Control District Significance Thresholds for Operation

Criteria Pollutant	Tier 1	Tier 2
NO _x and ROG	Less than 137 pounds per day	137 pounds per day and greater
PM ₁₀ and SO _x	Less than 150 pounds per day	150 pounds per day and greater
CO	Less than 550 pounds per day	550 pounds per day and greater
Level of Significance	Less than Significant	Significant Impact

Source: ICAPCD 2017

CO = carbon monoxide; NO₂ = nitrogen dioxide; ROG = reactive organic gas; SO_x = sulfur oxide

Projects with emissions below Tier 1 would not have a significant impact on 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 pounds per day and for ROG is 100 pounds per 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 PM₁₀ 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 that are 5 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 (REL) 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 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 (µg/m³) 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 project results in an exceedance of an air quality standard.

The criteria used to evaluate air emissions associated with the project 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 EMA in December 2017 (Appendix C of this EIR). This report was used in the evaluation of construction and operational air quality impacts.

Air pollutant emissions for the project operations and construction activities were estimated using the California Emission Estimator Model (CalEEMod) (version 2016.3.1). Unpaved private industrial road fugitive dust air pollutant emissions were calculated using the EPA's "AP-42, Compilation of Air Pollutant Emission Factors."

The air quality impacts are mainly attributable to the construction of the project, 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.

Project construction would consist of different activities which would be undertaken in phases, through to the operation of the project. Construction of the project is expected to consist of the following 10 activities (CalEEMod “phases”): access road (all-weather) improvement; grading/fencing; racking installation; solar panel installation; system wiring and trenching; battery facility installation, inverter installation; gentle power line construction; substation construction, and driveway paving. Some of the 10 activities are expected to overlap another construction activity. Construction of the project is estimated to take approximately 12 months. Table 4.3-4 presents the likely phasing of the various construction activities. Please refer to Appendix C of this EIR to a detailed discussion of the duration, construction equipment, and anticipated daily vehicle trips associated with each construction phase.

4.3.2.3 Impact Analysis

Impact 4.3-1 Conflict with or Obstruct Implementation of the Applicable Air Quality Plan.

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

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 project must demonstrate compliance with all ICAPCD applicable rules and regulations, as well as local land use plans and population projections. The project does not contain a residential component; therefore, the project would not result in an increase in regional population that exceeds the forecasts in the AQMP. Furthermore, the project is consistent with future build-out plans for the project site 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 project 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 project’s operational contribution to PM₁₀ would be below a level of significance. The project would therefore not interfere with the SIP for PM₁₀. A less than significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

Table 4.3-4. Anticipated Construction Schedule

	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7			
	Week #																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Access Road Construction	X	X	X	X	X	X	X																					
Grading/Fencing								X	X	X	X	X																
Racking Installation													X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Solar Panel Installation																								X	X	X	X	X
GenTie Power Line Construc.																								X	X	X	X	X
Substation Construc.																								X	X	X	X	X
System Wiring & Trenching																												
Inverter Installation																												
Battery Facility Install																												
Driveway Paving																												
Operations																												

	Month 8				Month 9				Month 10				Month 11				Month 12				Month 13							
	Week #																											
	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52				
Access Road Construction																												
Grading/Fencing																												
Racking Installation	X	X	X	X	X	X	X	X																				
Solar Panel Installation	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											
GenTie Power Line Construc.	X	X	X																									
Substation Construc.	X	X	X	X	X	X	X	X	X	X	X	X																
System Wiring & Trenching					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
Inverter Installation												X	X	X	X	X	X	X	X	X	X	X						
Battery Facility Install												X	X	X	X	X	X	X	X	X	X	X						
Driveway Paving																							X	X				
Operations																									X	X	X	X

Source: Appendix C of this EIR

Impact 4.3-2 Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation.

The project 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 project followed by a discussion of potential impacts during operation of the project.

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, PM₁₀ 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.

Table 4.3-5 presents the air pollution emissions summed by applicable construction activities. 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. As shown in Table 4.3-5, the proposed 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 4.3-5. Unmitigated Construction Emissions

Week	Activity	Criteria Emissions (pounds per day)				
		ROG	NO _x	CO	PM ₁₀	PM _{2.5}
1-7	Access Road Construction	1.59	17.47	8.30	10.23	1.59
8-13	Grading/Fencing	8.31	87.87	53.61	103.01	17.87
14-23	Racking Installation	3.48	24.88	25.32	51.17	6.49
24	Racking Installation & Solar Panel Installation	6.61	46.71	47.45	102.07	12.75
25-31	Racking Installation, Solar Panel Installation, GenTie Power Line Construction & Substation Construction	8.87	70.13	63.14	116.41	15.17

Table 4.3-5. Unmitigated Construction Emissions

Week	Activity	Criteria Emissions (pounds per day)				
		ROG	NO _x	CO	PM ₁₀	PM _{2.5}
32	Racking Installation, Solar Panel Installation & Substation Construction	7.73	57.58	55.75	109.60	14.01
33-35	Racking Installation, Solar Panel Installation, Substation Construction & System Wiring and Trenching	10.71	83.10	76.79	132.98	17.67
36-39	Solar Panel Installation, Substation Construction & System Wiring and Trenching	7.23	58.22	51.47	81.81	11.18
40	Solar Panel Installation, Substation Construction, System Wiring and Trenching & Inverter Installation	9.03	73.56	64.80	105.45	14.25
41-45	Solar Panel Installation, System Wiring and Trenching, Battery Facility Installation & Inverter Installation	9.93	80.98	70.85	107.94	14.88
46-47	System Wiring and Trenching, Battery Facility Installation & Inverter Installation	6.80	59.15	48.71	57.03	8.62
48-49	Battery Facility Installation, Inverter Installation & Paving Driveway	4.66	41.52	34.71	41.03	6.09
Maximum Daily		10.71	87.87	76.79	132.98	17.67
ICAPCD Threshold		75	100	550	150	N/A
Exceed Thresholds?		No	No	No	No	

Source: Appendix C of this EIR

CO = carbon monoxide; ICAPCD = Imperial County Air Pollution Control District; NO_x = nitrogen oxide; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than or equal to 10 microns in diameter; ROG = reactive organic gas

Operation

The solar facility would operate 7 days per week, 24 hours per day, generating electricity during normal daylight hours when the solar energy is available. The facility 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 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 two times per year) to increase the performance of the panels.

Table 4.3-6 summarizes the total project-related annual operational air emissions. As shown in Table 4.3-6, 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, AQ-4, and AQ-5). Therefore, this is considered a less than significant impact.

Table 4.3-6. Unmitigated Operational Emissions

	Criteria Emissions (pounds per day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Estimated Operational Emissions	0.08	0.75	0.47	0.00	0.04	0.03
ICAPCD Threshold	137	137	550	150	150	550
Exceed Thresholds?	No	No	No	No	No	No

Source: Appendix C of this EIR

CO = carbon monoxide; ICAPCD = Imperial County Air Pollution Control District; NO_x = nitrogen oxide; PM_{2.5} = particulate matter less than or equal to 2.5 microns in diameter; PM₁₀ = particulate matter less than or equal to 10 microns in diameter; ROG = reactive organic gas

Mitigation Measure(s)

AQ-1 Construction Equipment. Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better (Tier 2+). A list of the construction equipment, including all off-road equipment utilized at each of the projects by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit. The ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. The Planning and Development Services Department and ICAPCD shall verify implementation of this measure.

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

- All disturbed areas, including bulk material storage, which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical

stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.

- All on-site and offsite unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by paving, chemical stabilizers, dust suppressants, and/or watering.
- The transport of bulk materials shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk 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.
- All track-out or carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
- Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20 percent opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

ICAPCD “Discretionary” Measures for Fugitive Dust (PM₁₀) Control

- Water exposed soil with adequate frequency for continued moist soil.
- Replace ground cover in disturbed areas as quickly as possible.
- Automatic sprinkler system installed on all soil piles.
- Vehicle speed for all construction vehicles shall not exceed 15 miles per hour on any unpaved surface at the construction site.
- Develop a trip reduction plan to achieve a 1.5 average vehicle ridership 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).

Enhanced Mitigation Measures for Construction Equipment

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

- 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/ Office of Emergency Services [OES] Department).

AQ-4 Dust Suppression Management Plan. Prior to any earthmoving activity, the applicant shall submit a construction dust control plan and obtain approval from the ICAPCD and Imperial County Planning and Development Services Department.

AQ-5 Operational Dust Control Plan. Prior to issuance of a Certificate of Occupancy, the applicant shall submit an operations dust control plan and obtain approval from the ICAPCD and Imperial County Planning and Development Services Department.

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 project, the ICAPCD shall review the project to determine if Rule 310 fees are applicable to the project.

Significance after Mitigation

Although the proposed project would not exceed ICAPCD’s significance thresholds, Mitigation Measures AQ-1 through AQ-5 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 4.2-3 Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment.

The project would result in a temporary increase of PM₁₀, 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 project followed by a discussion of potential impacts during operation of the project.

Construction

Imperial County is classified as a "serious" non-attainment area for PM₁₀ and a "moderate" nonattainment area for 8-hour ozone for the NAAQS and non-attainment for PM_{2.5} for the urban areas of Imperial County. The proposed project is located within the non-attainment boundaries for PM_{2.5}. As identified above in Impact 4.3-2, the project would result in emissions of the air pollutants ROG, NO_x, CO, and PM₁₀. However, construction activities would not result in a significant increase in CO, ROG, and NO_x that would exceed ICAPCD thresholds. The project's emissions of ozone precursors and particulate matter are mainly attributable to temporary construction activities. These activities would cease after approximately 12 months. Implementation of Mitigation Measures AQ-1 and AQ-2 would reduce the emissions to a level less than significant.

Operation

As identified above in Impact 4.3-2, the operational impacts associated with the project would be less than significant. However, the proposed project, in conjunction with cumulative projects, could result in a cumulatively considerable impact related to PM₁₀ before implementation of mitigation. With mitigation, a less than significant impact is identified. Please refer to Section 6.0 Cumulative Impacts for a detailed discussion.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.2-4 Expose Sensitive Receptors to Substantial Pollutant Concentrations?

The project would not expose sensitive receptors to substantial pollutant concentrations.

As shown on Figure 4.3-1, there are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road.

Construction activities would result in emissions of DPM 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 DPM 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.

Because of 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 project's compliance with ICAPCD's Regulation 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 4.2-5 Create Objectionable Odors Affecting a Substantial Number of People.

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

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 possible physical harms is inhalation of volatile organic compounds (VOC) 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
- 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 site is not located near an odor producer.

No major sources of odors were identified in the vicinity of the project site that could potentially affect proposed on-site land uses. Development of the project could generate trace amounts (less than 1 $\mu\text{g}/\text{m}^3$) 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 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. A less than significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.3.3 Decommissioning/Restoration and Residual Impacts

4.3.3.1 Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration of the project site would generate air emissions. A summary of the daily construction emissions for the project is provided in Table 4.3-5. A similar scenario would be expected to occur during the decommissioning and site restoration stage of the project. 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 site. 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 of the project site.

4.3.3.2 Residual

The project 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, PM₁₀, and CO emissions during construction. Operation of the project, 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 through AQ-5 would ensure that fugitive dust emissions would be reduced during operations. The project would not result in any residual operational significant and unavoidable impacts with regards to air quality.

4.4 Biological Resources

This section discusses biological resources that may be impacted by the proposed project. The following identifies the existing biological resources in the project area, analyzes potential impacts because of the implementation of the proposed project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed project. Information for this section is summarized from the *Draft Biological Resources Technical Report (BTR)* and the *Preliminary Jurisdictional Waters/Wetlands Delineation Report*. These reports are included in Appendix D1 and D2 of this EIR.

4.4.1 Environmental Setting

The Draft BTR and *Preliminary Jurisdictional Waters/Wetlands Delineation Report* for the project integrate information collected from a variety of literature sources and field surveys to describe the biological resources within the vicinity of the project site. General biological surveys were conducted to determine the possibility of the existence of endangered, threatened, sensitive or species of concern within the project sites.

Focused burrowing owl surveys were conducted in the biological study area (BSA), which includes the project site and gen-tie route, plus a 150-meter buffer zone surrounding these Project components. Two of the four required breeding season surveys were performed by qualified Stantec biologists within the BSA on APNs 051-360-021, 051-360-031, 051-390-004, and 051-390-012 in June and July of the 2017 breeding season. The third and fourth breeding season surveys required to complete the CDFW protocol are scheduled to be conducted during the 2018 breeding season. Focused burrowing owl surveys were not conducted on the added parcel (APN 051-360-012).

4.4.1.1 Regulatory Setting

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

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 2016).

Federal Endangered Species Act

Enacted in 1973, FESA provides for the conservation of threatened and endangered species and their ecosystems. The FESA prohibits the “take” of threatened and endangered species except under certain circumstances and only with authorization from the USFWS through a permit under Section 4(d), 7 or 10(a) of the Act. Under the FESA, “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 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 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.

Section 401 Water Quality Certification (Clean Water Act)

Section 401 of the CWA requires an applicant for any federal permit which may result in a discharge into waters of the U.S. to obtain a certification from the state that the discharge will occur in to comply with provisions of the CWA.

State

California Environmental Quality Act

Title 14 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 Endangered Species Act

CDFW has jurisdiction over species listed as threatened or endangered under Section 2080 of the CDFW Code. CESA prohibits take of state-listed threatened and endangered species. The state act differs from the federal act in that it does not include habitat destruction in its definition of take. The CDFW Code defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CDFW may authorize take under the CESA through Sections 2081 agreements.

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

CDFW regulates activities that substantially divert or obstruct the natural flow of any river, stream, or lake or uses materials from a streambed. This can include riparian habitat associated with watercourses. CDFW jurisdiction includes the “...bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit...” This jurisdiction includes the area between the tops of a channel’s banks or to the limits of associated riparian vegetation if the vegetation extends beyond the tops of the banks, including drains and canals. Under Section 1600 of the California Fish and Game

Code, wetlands need only fulfill one of the three USACE criteria (hydrology, hydric soils, and wetland vegetation) to be considered CDFW jurisdictional wetlands.

California Department 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.

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 Resources Control Board (SWRCB), the Porter-Cologne Water Quality Control Act protects water quality and is an avenue to implement California responsibilities under the CWA. This act regulates discharge of waste into a water resource. The SWRCB oversees the RWQCB through the Porter-Cologne Act. Any condition of water quality certification would be incorporated into the USACE 404 permit. California has a policy of no-net-loss of wetlands and typically requires mitigation for impacts on wetlands before it will issue a water quality certification. Potential discharge of fill material into waters of the State may require authorization pursuant to the Porter-Cologne Act, through application for waste discharge requirements (WDR) or through waiver of WDRs.

Local

Imperial County General Plan

The 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. Table 4.4-1 analyzes the consistency of the project with specific policies contained in the Imperial County General Plan associated with biological resources.

Table 4.4-1. Project Consistency with General Plan Biological Resource Policies

General Plan Policies	Consistency with General Plan	Analysis
<p>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.</p> <p>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.</p>	<p>Consistent</p>	<p>Biological assessments and reports have been conducted at the project site in regard to the proposed project.</p> <p>Applicable agencies responsible for protecting plants and wildlife will be notified of the proposed project and provided an opportunity to comment on this EIR prior to the County's consideration of any approvals for the project.</p>
<p>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.</p> <p>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 USFWS and CDFW regulations, or as amended.</p>	<p>Consistent</p>	<p>See response to the Open Space Conservation Policy above. Additionally, Burrowing Owl Focused Surveys have been conducted or are planned in accordance with the wildlife agency protocols. The results and mitigation are provided in this section of this EIR.</p>

Source: ICPDS 1993

CDFW = California Department of Fish and Wildlife; EIR = environmental impact report; USFWS = U.S. Fish and Wildlife Service



4.4.1.2 Existing Conditions

Vegetation Communities

Vegetation has been divided into communities that are groups of plants that usually coexist within the same area. As shown on Figure 4.4-1 and Figure 4.4-2, the BSA supports five vegetation communities or land cover types: arrow weed thickets (*Pluchea sericea* Shrubland Alliance), arrow weed-common reed thickets (*Pluchea sericea* – *Phragmites australis* Shrubland Alliance), ruderal scrub, agricultural land, and developed/disturbed land (Table 4.4-2). Descriptions of these vegetation communities are provided below.

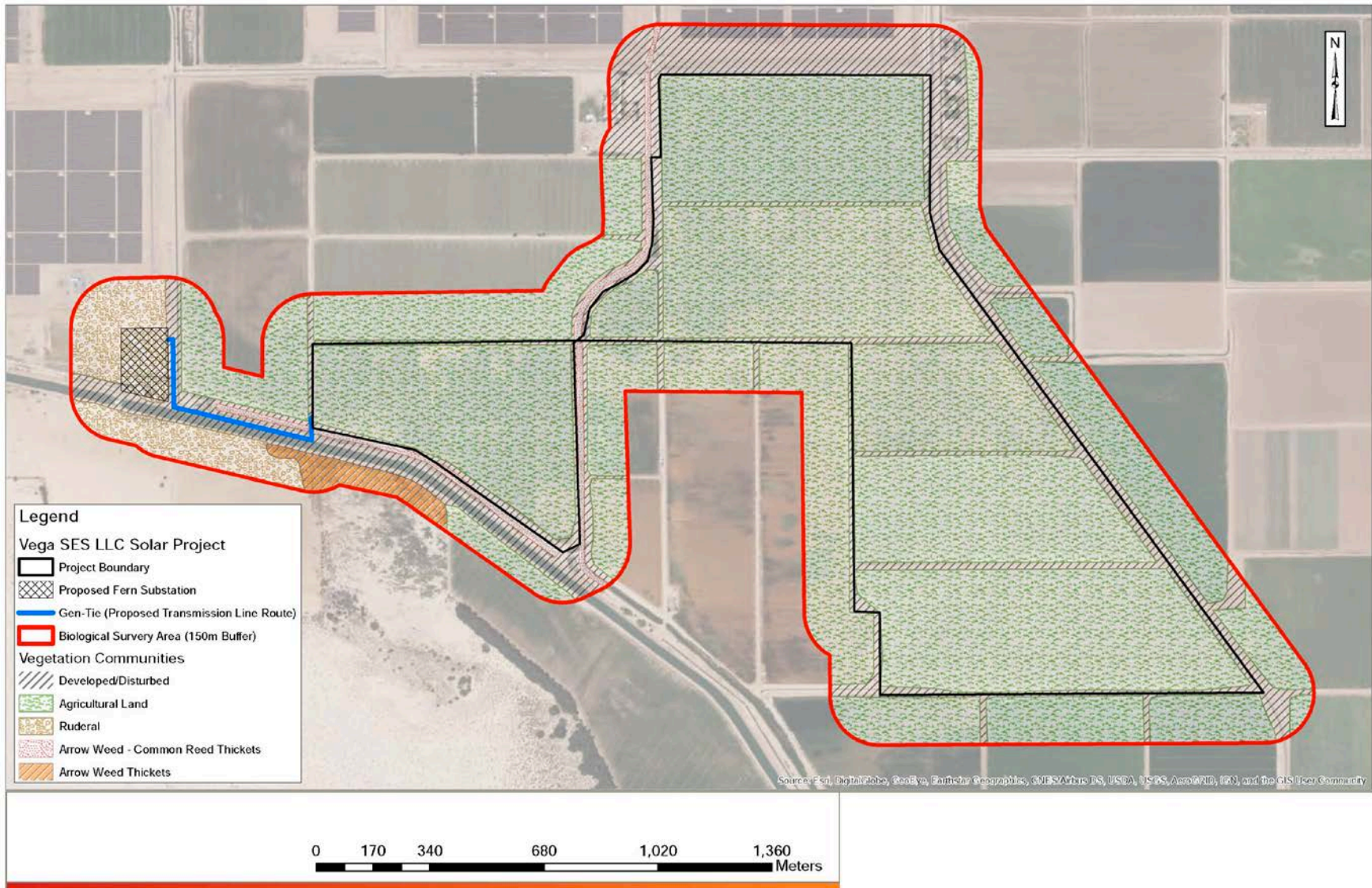
Table 4.4-2. Vegetation Communities and other Land Cover Types within the Biological Study Area

Vegetation Community or other Land Cover Type	Acreage within BSA (acre)
Arrow weed thickets (<i>Pluchea sericea</i> Shrubland Alliance)	9.2
Arrow weed – Common reed thickets (<i>Pluchea sericea</i> – <i>Phragmites australis</i> Shrubland Alliance)	12.7
Ruderal herbaceous scrub	38.9
Agricultural land	830.0
Developed/disturbed land	197.0
Total	1,087.8

Source: Appendix D1 and D2 of this EIR

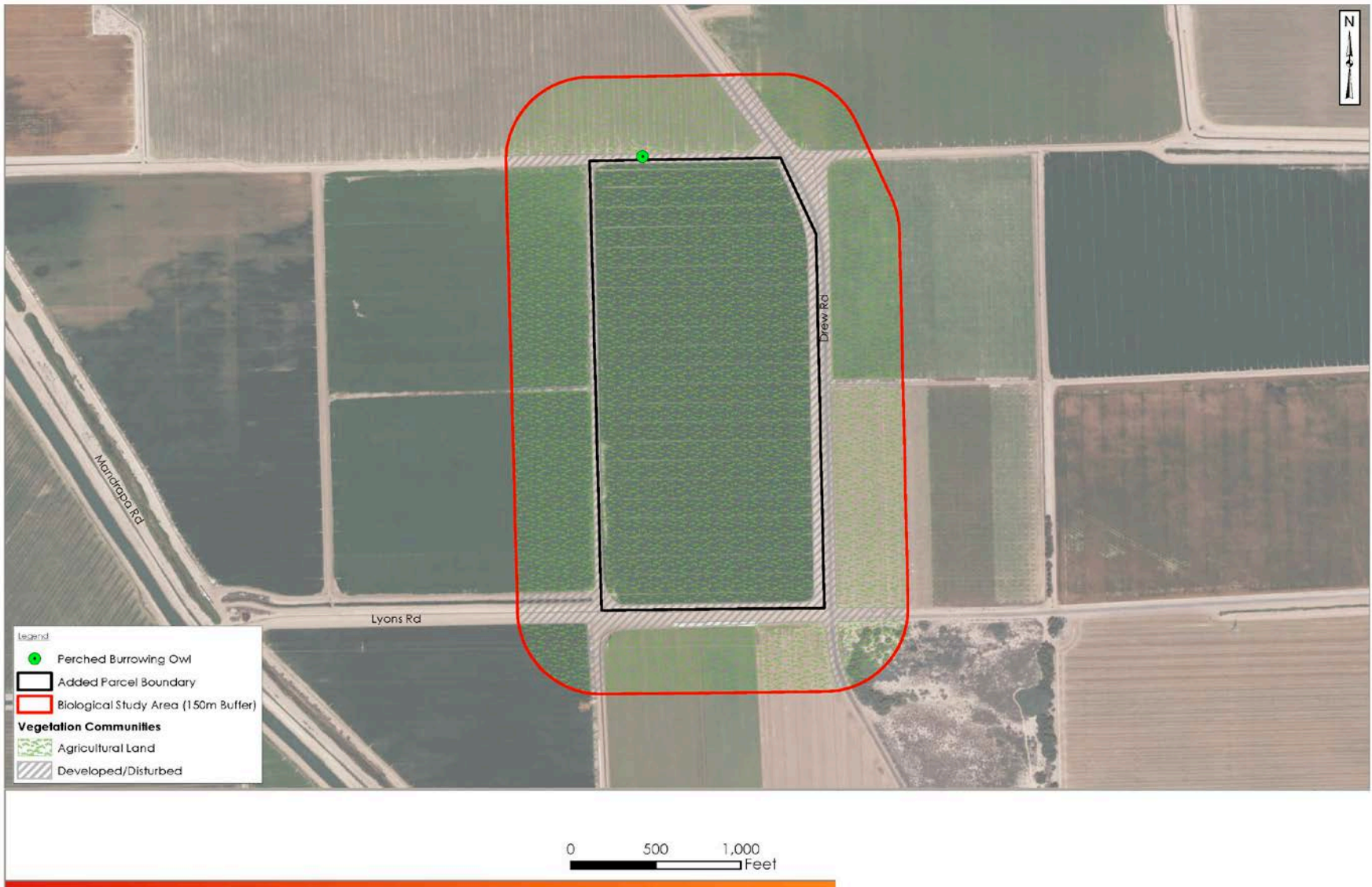
BSA = biological study area

Figure 4.4-1. Vegetation Communities Map (Sheet 1 of 2)



Source: Appendix D1 of this EIR

Figure 4.4-2. Vegetation Communities Map (Sheet 2 of 2)



Source: Appendix D2 of this EIR

Arrow Weed Thickets (Pluchea sericea Shrubland Alliance)

Arrow weed thickets are associated with drainage areas within the BSA, including the area south of Mandrapa Road and bordering the southern edge of the Westside Main Canal. They are dominated by arrow weed, which is recognized by the USFWS National Wetland Inventory as a facultative wetland plant; usually occurring in wetlands but occasionally found in non-wetlands). Other species observed within this community include tamarisk (*Tamarix* sp.) and mesquite (*Prosopis* sp.). This vegetation community is considered sensitive by the CDFW¹.

Arrow Weed-Common Reed Thickets (Pluchea sericea – Phragmites australis Shrubland Alliance)

Arrow Weed – Common Reed Thickets within the BSA are co-dominated by arrow weed and common reed, with southern cattail (*Typha domingensis*) also present. These thickets are confined within the two major IID drainages, Fig Drain, and Westside Main Canal. Similar to arrow weed, common reed is recognized by the USFWS National Wetland Inventory as a facultative wetland plant.

Ruderal Herbaceous Scrub

Ruderal herbaceous scrub within the BSA is co-dominated by the non-native plants Russian thistle (*Salsola tragus*) and Bermuda grass (*Cynodon dactylon*). Associated species in this community include eucalyptus (*Eucalyptus* sp.) and mesquite trees. This scrub community occurs on the proposed Fern substation site (not part of this project) and in the undeveloped area to the southwest of the proposed gen-tie route, bordering the southern edge of the Westside Main Canal.

Agricultural Land

Agricultural land occurs throughout the BSA and includes active and fallow fields, and associated irrigation canals immediately adjacent to the fields.

Developed/Disturbed Land

This land cover type is present throughout the BSA and includes developed areas such as roads, residences, and existing solar facilities. These areas are predominantly devoid of vegetation, although sparse growth of ruderal vegetation, including non-native annual grasses and other weedy species, is supported.

Wildlife Species

A total of 29 species of wildlife were observed or heard within the BSA during the general biological and focused burrowing owl surveys, including 24 birds, 4 mammals, and 1 reptile. These species are typical of the habitats in the BSA, which provide cover, foraging, and breeding habitat for a variety of native wildlife species. A complete list of all wildlife species observed in the BSA is provided in the BTR (Appendix D1 of this EIR).

¹ List of Sensitive Natural Communities is available online at:
[https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive natural communities](https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities)

Special-Status Wildlife Species

Special-status wildlife species include those that are state and/or federally listed, candidates for listing, those designated by the CDFW as “Fully Protected,” “Species of Special Concern,” or on a “Watch List,” and species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are typically the focus of avoidance, minimization, and mitigation requirements under CEQA. As a result of the data search, special-status wildlife species were evaluated for the potential to occur within the BSA. Special-status species that were evaluated for their potential for occurrence in the BSA are detailed in the BTR (Appendix D1 of this EIR). A summary of the species that were either observed during surveys or that have a moderate to high potential to occur within the BSA is provided below.

Threatened or Endangered Wildlife Species

No state or federally-listed wildlife species were observed in the BSA and because of the lack of suitable habitat for these species, none are expected to occur.

Other Sensitive Wildlife Species

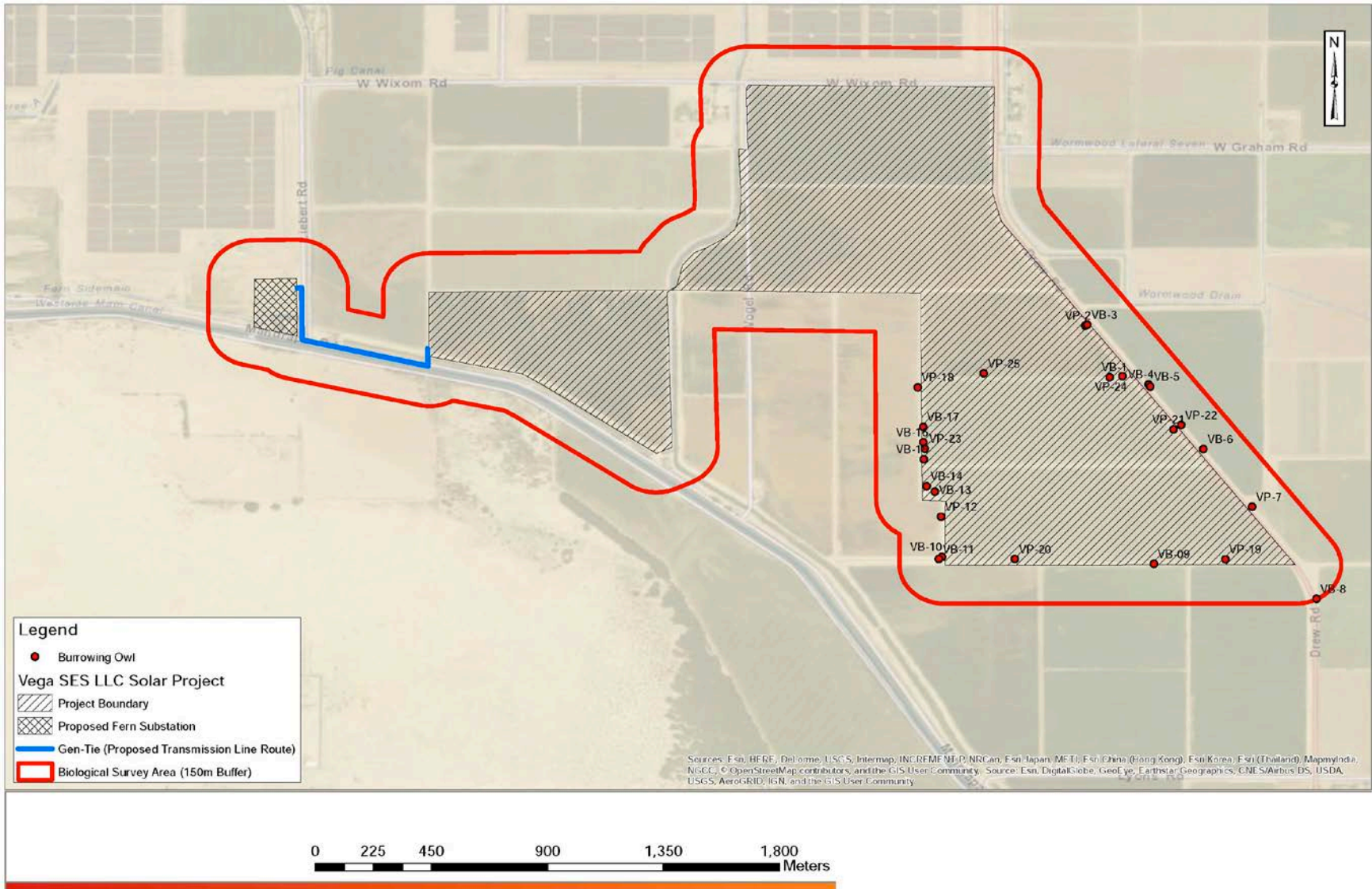
During the reconnaissance-level survey conducted on June 28, 2017, and subsequent focused surveys, one special-status wildlife species, burrowing owl (*Athene cunicularia*), was observed within the BSA. Locations of burrowing owls and their burrows are shown on Figure 4.4-3. Additionally, the BSA contains habitat that with a moderate to high potential to support four other special-status wildlife species known to occur in the region (per California Natural Diversity Database [CNDDB] query): flat-tailed horned lizard (*Phrynosoma mcallii*), mountain plover (*Charadrius montanus*), vermilion flycatcher (*Pyrocephalus rubinus*), and Yuma hispid cotton rat (*Sigmodon hispidus eremicus*). Other special-status species known to inhabit the region are not expected to occur within the BSA because of lack of suitable habitat or high levels of ongoing disturbance and are not discussed further in this EIR. Recorded observations of special-status wildlife within 5 miles of the BSA are provided in Appendix D1 of this EIR.

Burrowing owl (*Athene cunicularia*) – Species of Special Concern

A small, ground-dwelling species, burrowing owls have long legs, yellow eyes, and are mottled brown in color. Burrowing owl habitat includes open, generally flat areas that are dry and contain short-statured grasses. Burrowing owls also use agricultural areas, vacant fields, and ruderal areas if such areas contain suitable burrowing and foraging habitat. These owls often use burrows created by other species, such as round-tailed ground squirrel (*Citellus tereticaudus*). They typically feed on small rodents, arthropods, amphibians, reptiles, small birds, and carrion. Burrowing owls are comparatively easy to detect because they are frequently visible outside of their burrows during the day and are generally active at dusk and dawn, but sometimes also at night. The nesting season for these birds begins in late March or April.

Focused burrowing owl surveys were conducted within the BSA on June 27, June 28, July 18, and July 19, 2017. A total of 15 suitable burrowing owl burrows and 33 burrowing owl individuals were documented during these surveys, both within the project area and the surrounding buffer. Two additional burrowing owl surveys are being conducted in 2018 for compliance with survey protocol. A detailed burrowing owl report, including figures showing locations of burrows and individuals, is provided in Appendix D1 to this EIR.

Figure 4.4-3. Observed Burrowing Owl Locations



Source: Appendix D2 of this EIR

Flat-tailed horned lizard (*Phrynosoma mcallii*) – Species of Special Concern

The flat-tailed horned lizard is a medium-sized, flat-bodied lizard, with a wide, oval-shaped body, pointed scales along its upper body and tail, and eight horns on the back of its head. It is typically beige, light brown, and light gray, and blends in with the color of soil or sand. A dark stripe is located along its back, with dark spots along each side of the stripe. Suitable habitats for this species include sparsely vegetated desert washes and desert flats. This lizard requires fine sand for burrowing. Its diet consists primarily of harvester ants, but it will occasionally eat other small invertebrates.

No flat-tailed horned lizards were observed within the BSA during the biological surveys. However, fine, sandy areas along irrigation canals, dirt roads, and open space within the BSA provide suitable habitat for this species. Additionally, ants were observed throughout the BSA. Therefore, there is the potential for this species to occur within the BSA.

Mountain plover (*Charadrius montanus*) – Species of Special Concern

The mountain plover is a medium-sized shorebird. It is sandy brown in color with a pale underside, a black forehead, and black coloration connecting the eye to the bill in adult breeding plumage. This species prefers flat land, including short grasslands, plowed fields, sprouting grain fields, and sod farms. Mountain plovers typically nest on the ground within the western Great Plains. They typically eat insects.

No mountain plovers were observed within the BSA during the biological surveys. However, there is the potential for this species to forage in the agricultural fields within the BSA.

Vermilion flycatcher (*Pyrocephalus rubinus*) – Species of Special Concern

The vermilion flycatcher is a small flycatcher; males are typically bright red and black or dark brown, while females are typically gray-brown with light reddish underparts and white streaked breast. Suitable habitat for this species includes desert riparian habitat adjacent to irrigated/cultivated fields, pastures, and other open areas. It nests in forks of trees within desert riparian habitat. It typically perches in the open, and primarily preys on insects and other small arthropods.

No vermilion flycatchers were observed within the BSA during the biological surveys. However, the agricultural fields, irrigation ditches, and canals provide suitable foraging habitat for this species.

Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) – Species of Special Concern

The Yuma hispid cotton rat is a thick-bodied, brown rat found along the Lower Colorado River. It typically inhabits grassy areas near irrigation water bodies, and prefers dense herbaceous cover for making runways. This species may nest aboveground or underground within burrows, breeding year-round and feeding on grasses, other vegetation, and occasional insects.

No Yuma hispid cotton rats were observed within the BSA during the biological surveys. However, vegetated areas along earthen canals within the BSA provide suitable habitat for this species.

Botanical Species

A total of 29 plant species were documented within the BSA during the general biological and focused burrowing owl surveys, including 16 natives and 13 non-natives. These species are typical of the habitats in the BSA and the high percentage of non-native plant species is indicative of the degree of disturbance present within those communities. A complete list of all plant species observed in the BSA is provided in the BTR (Appendix D1 of this EIR).

Threatened or Endangered Botanical Species

No state or federally listed plant species were observed in the BSA. In addition, no suitable habitat for state and/or federally listed plant species is present in the BSA.

Other Sensitive Botanical Species

During the reconnaissance-level survey conducted on June 28, 2017, and subsequent focused surveys for burrowing owl conducted in June and July 2017, no sensitive plant species were observed within the BSA. Focused surveys for special-status plant species timed to coincide with the flowering periods for all special-status plant species known to occur in the region were not conducted. Recorded observations of nine special-status plant species within 5 miles of the BSA are depicted in Appendix D1 of this EIR. However, based on the site survey, the BSA does not contain suitable habitat to support any of these species because of the long-term disturbance to these areas resulting from active agricultural production, which has altered soil profiles, plant species composition, drainage patterns, and other ecological factors.

Riparian Habitat or Sensitive Natural Communities

Per CDFW, alliances with state ranks of S1-S3 and all associations within them are considered to be sensitive natural communities based on the rarity of and threats to those communities. During the reconnaissance level survey conducted on June 28, 2017, one sensitive natural community, arrow weed thickets, listed with a state rank of S3, was mapped within the BSA. This community was observed outside of the project area within the buffer zone to the south of Mandrapa Road and adjacent to the Westside Main Canal (Appendix D1 of this EIR).

Jurisdictional Waters

Wetlands and other “waters of the United States” that are subject to Section 404 of the CWA and/or Section 10 of the Rivers and Harbors Act are under the jurisdiction of the USACE. Typically, these waters include naturally occurring traditional navigable waters (TNW), relatively permanent waters (RPW), and/or ephemeral waters with a significant nexus to a TNW. Agricultural water conveyance systems which are manmade and constructed wholly in uplands are typically only considered jurisdictional if they are RPWs. Conversely, man-made drainages constructed solely in uplands that are not RPWs are generally not federally jurisdictional. IID drains and canals are part of an agricultural system and therefore by definition (USACE 1987) are not classified as wetlands, although typical wetland/riparian plant species are often found within canals and drains. Canals and drains do not flow continuously as they are dependent upon irrigation events.

With respect to non-tidal waters, federal jurisdiction over non-wetlands extends to the “ordinary high water mark” (OHWM), 33 CFR. § 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. IID canals, drains, farmer head, or tail ditches would not be considered an “arid or ephemeral channel” as they are manmade expressly for the conveyance of irrigation waters.

A jurisdictional delineation was conducted on June 28 and October 23, 2017, to determine the extent of USACE, CDFW, and RWQCB resources within the BSA (Table 4.4-3). The results of this delineation are summarized below.

Table 4.4-3. Potential Jurisdictional Areas within the Biological Study Area

Potential Jurisdictional Areas	Acreage within BSA (acre) ¹
USACE/RWQCB non-wetland waters of the U.S.	15.54
CDFW/RWQCB waters of the state	26.25

Source: Appendix D1 and D2 of this EIR

¹ Non-wetland waters of the U.S. and waters of the state overlap and, therefore, are not additive

BSA = biological study area; CDFW = California Department of Fish and Wildlife; RWQCB = regional water quality control board; USFWS = U.S. Fish and Wildlife Service

No USACE wetland areas were identified within the BSA.

All of the drainage features within the BSA are manmade, constructed entirely within uplands, and are used solely for agricultural irrigation. Head and tail ditches are typically dry and convey water only during periodic and infrequent irrigation events. Therefore, they would not meet the definition of a RPW and would not be considered federally jurisdictional. They also do not support riparian habitat and, as is the case with many tail ditches, are plowed under and re-created each time the field is replanted. Therefore, these ditches would also not be considered state jurisdictional.

The larger, IID-administered canals (supply) and drains (drainage) generally convey water year-round and ultimately flow into the Salton Sea, which is considered a TNW, and would likely be considered federally jurisdictional. In addition, these larger, IID-administered canals and drains support some riparian vegetation and/or aquatic life, and would likely be considered state jurisdictional.

Wildlife Corridors and Habitat Connectivity

Wildlife movement corridors and habitat linkages are areas that connect areas of suitable habitat within a region that may be fragmented by topography, vegetation changes, or human disturbance. Corridors are generally relatively short, local pathways with little change in vegetation, while linkages occupy larger distances between large core areas of habitat, typically traverse several thousand feet, and incorporate multiple vegetation communities. To function effectively, a corridor must accomplish two basic functions: 1) it must effectively link two or more large patches of habitat and; 2) the corridor must be suitable to the target species such that they use the corridor frequently enough to enable demographic and genetic exchange between populations. Natural landscape features, such as drainages, ridgelines, or areas with dense vegetative cover, may provide corridors and linkages for wildlife to travel. The connectivity provided by these pathways serves as an important factor in species dispersion, access to food and water, and maintenance of genetic diversity between potentially otherwise distinct populations.

Birds and terrestrial wildlife species such as mammals and reptiles are able to move unimpeded throughout the BSA and are not restricted to specific corridors or linkages in the project vicinity. Because of the availability of water and increased vegetative cover in some of the IID irrigation infrastructure, these features likely experience increased use as local pathways for wildlife movement.

The Imperial Valley is an important component of the Pacific Flyway, which is a major north-south passageway for migratory birds traveling from Alaska to Patagonia. The Salton Sea is known as a stopover for birds migrating along this flyway, hosting as many as 400 different species. The project site is situated approximately 25 miles south of the Salton Sea.

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 CEQA Guidelines Appendix G, project impacts related to biological resources are considered significant if implementation of the project would:

- 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 or USFWS
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or other 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
- 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 project, 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, Stantec prepared a BTR which covered the Vega SES Solar Project and surrounding 150-foot buffer area and a Preliminary Wetlands/Waters Jurisdictional Report that covered the added parcel. These documents are included as Appendix D1 and D2 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 operations and maintenance activities were evaluated qualitatively based on site conditions; expected construction practices; materials, locations, and duration of project construction and related activities; and field visits.

4.4.2.3 Impact Analysis

Impact 4.4-1 Possible Habitat Modification.

Construction, operations, and maintenance of the proposed project could result in substantial adverse effects, either directly or indirectly through alteration of suitable habitat, 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.

Impacts on Vegetation Communities

Construction Impacts

Construction of the proposed project would result in impacts on approximately 502 acres of agricultural lands as well as 12.9 acres of land that are already developed/disturbed (Table 4.4-4). Construction would not result in impacts on any native vegetation communities, including sensitive vegetation communities.

Table 4.4-4. Impacts on Vegetation Communities and other Land Cover Types

Vegetation Community or other Land Cover Type	Permanent Impact (acre)
Arrow weed thickets (<i>Pluchea sericea</i> Shrubland Alliance)	0.0
Arrow weed – Common reed thickets (<i>Pluchea sericea</i> – <i>Phragmites australis</i> Shrubland Alliance)	0.0
Ruderal herbaceous scrub	0.0
Agricultural land	502.3
Developed/disturbed land	12.9
Total	515.2

Source: Appendix D1 and D2 of this EIR

Operations and Maintenance Impacts

Ongoing operations and maintenance activities would occur within the area already cleared for project construction. Therefore, these activities would not result in any impacts on vegetation communities and no mitigation is required.

Impacts on Special-Status Plant Species

Construction Impacts

No special-status plant species were detected during biological surveys; however, focused surveys were not conducted during the peak flowering periods for special-status plant species known from the region. As noted above, construction impacts would only be to agriculture and developed/disturbed areas, which do not provide suitable habitat for any special-status plant species. Therefore, construction of the proposed project would not result in impacts on special-status plant species.

Operations and Maintenance Impacts

As noted above, operations and maintenance activities would occur within the area already cleared for project construction. This area would not provide suitable habitat for special-status plant species. Therefore, operations and maintenance activities would not result in impacts on special-status plant species.

Impacts on Special-Status Wildlife Species

The project impact area includes known occupied habitat for burrowing owl, highly suitable habitat for flat-tailed horned lizard and mountain plover, and moderately suitable habitat for vermilion flycatcher and Yuma hispid cotton rat. Potential impacts on these species are described in further detail below.

Burrowing Owl

Construction Impacts

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

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

Direct Impacts

A total of 33 burrowing owls and 15 suitable, active burrowing owl burrows were observed along irrigation canals in active agricultural fields within or adjacent to the project impact area. Ten of the active burrows were found within the project impact area (APNs 051-360-031, 051-390-004, and 051-390-013), and five were found within the adjacent buffer area. Although burrowing owl surveys were not conducted within the added parcel (APN 051-390-012), this parcel has similar habitat to the other parcels and is presumed to be occupied. No burrowing owls or suitable burrowing owl burrows were observed along the gentie line.

Based on the CDFW Staff Report (CDFW 2012), all of these burrows occur within 250 feet of the project impact area and, therefore, impacts on these burrows during construction would be considered significant. Similarly, impacts on suitable foraging habitat within 300 feet of each active burrow during construction would be considered significant. Mitigation Measures BIO-1 (Burrowing Owl Mitigation) and BIO-2 (Burrowing Owl Compensation) would reduce construction impacts on burrowing owl to a level less than significant.

As a requirement of Mitigation Measure BIO-1, a pre-construction survey will be conducted prior to grading, as the number and location of owls may change from year to year. These fields will be graded during construction activities, but no IID canals, drainages, or roads will be impacted. Direct impacts on any burrowing owl individuals and/or active burrowing owl burrows within the agricultural land to be graded would be considered potentially significant, and mitigation in the form of avoidance and impact minimization is required (Mitigation Measure BIO-1) to reduce the impact to a level less than significant. Similar measures will be required for any future decommissioning, restoration activities that may occur at the end of the currently anticipated 25 to 30-year life of the project.

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 the breeding season. These impacts would be considered significant and mitigation would be required to minimize and/or avoid these impacts. Implementation of Mitigation Measures BIO-1 and BIO-3 (Worker Environmental Awareness Program [WEAP]) would reduce the impact to a level less than significant, ensuring that construction is at least 250 feet away from an active burrow during the breeding season, which would be confirmed through construction monitoring by the Designated Biological Monitor. Similar measures would be required for any future decommissioning, restoration activities that may occur at the end of the currently anticipated 25 to 30-year life of the project.

Operations and Maintenance Impacts

After construction of the solar energy facility is complete, burrowing owls are expected to persist along the perimeter of the solar energy facility along the IID canals, drains, and roads, which provide burrowing and foraging opportunities. The owls are also expected to utilize the solar energy facility perimeter fence as a foraging perch. Direct impacts on burrowing owls may occur during O&M activities within the solar energy facility and along the transmission line. 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 significant and mitigation would be required. Mitigation Measure BIO-3 requires preparation of a WEAP and Mitigation Measure BIO-4 (Speed Limit) requires that construction vehicles maintain a speed limit of 15 miles while driving on access roads. Implementation of these mitigation measures would reduce impacts on burrowing owls from O&M activities to a level less than significant.

After the solar energy facility is constructed, burrowing owls are expected to forage within the areas underneath the solar panels and areas within the solar facility that provide foraging opportunities. While searching for prey, burrowing owls characteristically hover for periods of several minutes at heights of 8 to 15 meters. During the night, their 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 1 meter above the ground when foraging for rodents. Given the static and highly visible nature of the solar panels and transmission towers, burrowing owls are not expected to collide with the structures during daytime foraging activities when they may be hovering or flying in search of 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 on burrowing owl are anticipated from collision with facility structures, and no mitigation would be required.

All permanent lighting within the solar energy facility will be by low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining onto

adjacent lands. In addition, any lighting that is not required on a daily basis for security purposes will have motion sensor or temporary use capabilities. No significant impacts because of lighting are expected to occur to this species, and no mitigation is required.

No equipment or component of the solar energy facility or transmission lines is expected to produce noise that would exceed the ambient noise in the vicinity. No significant impacts because of noise are expected to occur to this species, and no mitigation is required.

Migratory Birds and Other Sensitive Non-Migratory Bird Species

Construction Impacts

Project construction has the potential to impact migratory birds and other sensitive non-migratory bird species, including mountain plover and vermilion flycatcher. Although these two special-status bird species were not observed during surveys, the project area includes suitable agricultural foraging habitat; therefore, there is the potential for these species to occur, although the project site does not provide suitable nesting habitat for these species. Mountain plover is a naturally evasive species and it will readily move out of harm's way to avoid construction-related activities, including site clearing and grading. Indirect impacts resulting from minimal lighting and heavy equipment noise during construction are not expected to adversely modify the behavioral patterns of foraging mountain plover or vermilion flycatcher. The removal of approximately 500 acres of potential agricultural foraging habitat for these species (which is less than 0.1 percent of the total amount of agriculture in Imperial County, more than 515,000 acres) is not expected to result in a substantial reduction of sufficient prey base found within the project vicinity (USDA Census of Agriculture 2012). In addition, their insect and arthropod prey base may still use the solar facility site after construction, indicating that there would not be a complete loss of suitable foraging habitat for these species on the project site as a result of project construction. Therefore, the loss of potential foraging habitat would not be considered significant and no mitigation is required.

Two mourning dove nests were observed within mesquite trees located in the northwest portion of the BSA, adjacent to the Fig Drain. The project area also supports potential nesting habitat for raptors and passerines. Therefore, construction activities have the potential to directly and indirectly impact nesting birds during the nesting season. Nesting birds can be adversely affected by noise or human activity during construction, resulting in decreased reproductive success or abandonment of a nest or an area defined as nesting habitat. If implementation of the project resulted in such adverse effects, it may be considered a violation of the MBTA, which would be considered a significant impact. Implementation of Mitigation Measures BIO-5 (Construction Monitoring), BIO-6 (Temporary Construction Suspension), BIO-7 (Pre-Construction Bird Surveys), BIO-8 (Construction and O&M Mitigation Measures), and BIO-9 (Raptor and Active Raptor Nest Avoidance) would reduce construction impacts on migratory birds and other sensitive non-migratory bird species 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 25 to 30-year life of the project.

Operations and Maintenance Impacts

General operations and maintenance-related activities, including equipment inspection and/or repairs, solar panel washing, site security checks, and periodic removal of vegetation growing near the solar panels, may result in disturbance to migratory birds and other sensitive non-migratory bird species. Such disturbance could be considered a significant impact. Implementation of Mitigation Measure

BIO-8 would reduce O&M impacts on migratory birds and other sensitive non-migratory bird species to a level less than significant.

Other Special-Status Wildlife Species

Construction Impacts

Construction has the potential to impact two other special-status wildlife species: flat-tailed horned lizard and Yuma hispid cotton rat. Although these species were not observed during surveys, the project area includes suitable habitat for these species along canals and dirt roads and there are recent known CNDDDB occurrences within 1 mile of the project site for flat-tailed horned lizard south of the Westside Main Canal and within 1.25 miles of the project site for Yuma hispid cotton rat north of the Westside Main Canal. In addition, several of the CNDDDB occurrences for flat-tailed horned lizard were from 2015 on active solar facility construction sites located adjacent to suitable habitat. Given the proximity of the project site to known occupied habitat for these two species and the potential for these animals to come into the project area during construction, there is the potential for these animals to be impacted during construction. Direct and indirect impacts on these species during project construction could be significant, if present. Implementation of BIO-10 (Flat-tailed Horned Lizard Focused Surveys) and BIO-11 (Pre-construction Surveys for Yuma Hispid Cotton Rat) would reduce construction impacts on flat-tailed horned lizard and Yuma hispid cotton rat to a level less than significant.

Operations and Maintenance Impacts

General operations and maintenance-related activities, including equipment inspection and/or repairs, solar panel washing, site security checks, and periodic removal of vegetation growing near the solar panels, are not expected to result in substantial impacts on flat-tailed horned lizard or Yuma hispid cotton rat and no mitigation is required.

Mitigation Measures

Burrowing Owl

Burrowing owls are known to occur within the project impact area, particularly along the irrigation canals within active agricultural fields. To avoid, minimize, and mitigate impacts on burrowing owls during construction, the following measures are provided:

BIO-1 Burrowing Owl Mitigation. Burrowing owls have been observed in the active agricultural fields within the project site. The following measures will avoid, minimize, or mitigate potential impacts on burrowing owl during construction activities:

1. To the extent feasible, construction grading/clearing of the Project footprint should occur during the non-nesting season (September 1 through January 31) in order to avoid impacts on breeding owls.
2. A distance of 160 feet during the non-nesting season (September 1 through January 31), or 250 feet during the nesting season (February 1 through August 31), shall be maintained between active burrows and construction activities. A qualified biologist may also employ the technique of sheltering in place (using hay bales to shelter the burrow from construction activities). If this technique is employed, the sheltered area shall be monitored weekly by a qualified biologist.

3. If construction is to begin during the breeding season, pre-construction clearance surveys shall be implemented prior to February 1 to discourage the nesting of burrowing owls within the project footprint. As construction continues, any area where owls are sighted shall be subject to frequent surveys by the qualified biologist for burrows before the breeding season begins, so that owls can be properly relocated before nesting occurs.
4. Pre-construction clearance surveys for this species shall be conducted by a qualified biologist no more than 14 days prior to the start of ground disturbance and at least 24 hours prior to the start of construction. A report documenting the presence or absence of this species within the project footprint shall be submitted by qualified and agency-approved biologists. These clearance surveys are required because 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 qualified 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.
5. If active burrows are present within the project footprint, the following mitigation measures shall be implemented. Passive relocation methods are to be implemented under the supervision of the qualified biologist to move the owls out of the impact zone. Passive relocation shall only be done during 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 1 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 2:1 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 energy facility, such as retention basins.
6. 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 on this species. Passive relocation, destruction of burrows, construction of artificial burrows, and a Forage Habitat Plan shall only be completed upon prior approval by and in cooperation with 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.

BIO-2 Burrowing Owl Compensation. The project applicant shall compensate for impacts on burrowing owl habitat through the following measures:

- CDFW's mitigation guidelines for burrowing owl (CDFW 2012) require the acquisition and protection of replacement foraging habitat per pair or unpaired resident bird to offset the loss of foraging and burrowing habitat on the project site.
- The project applicant shall landscape small pockets of land along the perimeter of the solar energy facility, and/or within the solar energy facility, with native vegetation that will provide suitable foraging habitat for burrowing owls, pursuant to a Mitigation and Monitoring Plan that is reviewed and approved by CDFW prior to the commencement of construction. Although the site plans show almost 100 percent coverage of solar panels, it is anticipated that because of the nature of solar panel configuration, there will be spaces at various locations, such as between the edges of the agricultural fields (i.e., outside of IID easements) and the solar project footprint. Sufficient open areas shall be set aside for burrowing owl habitat and burrow relocation for the lifespan of the solar project. Because of County of Imperial requirements that the solar energy facility be returned to active agriculture after the life of the solar projects, it is assumed that when the land is returned to active agricultural crops, it will continue to provide habitat for burrowing owl. If the vegetation that is planted does not succeed, sufficient areas cannot be provided on site, or planting is not feasible, alternative mitigation shall be provided, which CDFW determines provides equivalently effective mitigation. Such alternative mitigation may include off-site preservation of the required amount of foraging habitat through a CDFW-approved conservation easement, or an in-lieu fee in an amount approved by CDFW that is sufficient to acquire such conservation easements, or some combination of the two.

BIO-3 Worker Environmental Awareness Program. Prior to project initiation, a 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 and any other special-status wildlife species found during pre-construction surveys;
- CDFW/USFWS regulations;
- Protection measures designed to reduce potential impacts on special-status wildlife species, function of flagging designated authorized work areas;
- Reporting procedures to be used if a burrowing owl (dead, alive, injured) or other special-status wildlife species is encountered in the field.

BIO-4 Speed Limit. The Qualified Biologist or Biological Monitor(s) shall evaluate and implement the best measures to reduce burrowing owl mortality along access roads.

- A speed limit of 15 miles per hour when driving access roads shall be established. All vehicles required for O&M must remain on designated access/maintenance roads.

BIO-5 Construction Monitoring. If pre-construction surveys determine either the presence of special-status species, sensitive biological resources, or nesting birds, a biological monitor may be warranted during construction.

If determined necessary, biological compliance monitoring during construction shall be conducted by a qualified biologist. The qualified biologist shall be given authority to execute the following functions:

- Prepare and conduct a WEAP (per BIO-3) to all construction personnel that provides regulatory information, special-status species, sensitive habitat information, and best management practices;
- Establish construction exclusion zones and make recommendations for implementing erosion and dust control measures in temporary impact areas;
- Ensure all construction activities stay within the staked construction zone and do not go beyond the limits of approved disturbance;
- Minimize trimming/removal of vegetation within the project impact areas;
- Restrict non-essential equipment to existing roadways and/or disturbed areas to avoid disturbance to existing adjacent native vegetation; and
- Install and maintain appropriate erosion/sediment control measures, as needed, throughout the duration of work activities.

During construction, biological monitors shall inspect and verify field conditions, as needed, to ensure that wildlife and vegetation adjacent to the proposed project areas are not impacted. The biological monitor shall coordinate with the construction foreman and construction crew and shall have the authority to immediately stop any activity that has the potential to impact special-status species or remove vegetation not specified in this report.

Migratory Birds and Other Sensitive Non-Migratory Bird Species

To avoid, minimize, and mitigate impacts on migratory birds and other sensitive non-migratory bird species during construction, operations, and maintenance, the following measures are provided:

BIO-6 Temporary Construction Suspension. If a qualified Biological Monitor observes mountain migratory birds and/or other special-status non-migratory bird species foraging within the project site, or in adjacent agricultural fields, the qualified Biological Monitor shall have the discretion to cease construction in the area of the observed species (i.e., maintain an appropriate buffer between the species and construction activity) until they disperse. Additionally, in order to reduce impacts on migratory birds and/or other special-status non-migratory bird species, an avian protection plan (APP) shall be prepared following USFWS guidelines and subsequently implemented by the project applicant. The requirements of the APP are described in Mitigation Measure BIO-8.

BIO-7 Pre-Construction Bird Surveys. To avoid impacts on nesting birds and to comply with the MBTA, clearing of vegetation should occur during the non-nesting (or non-breeding) season for birds (generally, September 1 to January 31). If this avoidance schedule is not feasible, the alternative is to carry out the clearing of vegetation associated with construction under the supervision of a qualified biologist. This would entail a pre-construction nesting bird survey conducted by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey shall consist of full coverage of the

proposed disturbance limits and up to a 500-foot buffer area, determined by the biologist and taking into account the species nesting in the area and the habitat present. If no active nests are found, no additional measures are required. If “occupied” nests are found, their locations shall be mapped, species documented, and, to the degree feasible, the status of the nest (e.g., incubation of eggs, feeding of young, near fledging) recorded. The biologist shall establish a no-disturbance buffer around each active nest. The buffer area shall be determined by the biologist based on the species present, surrounding habitat, and type of construction activities proposed in the area. No construction or ground disturbance activities shall be conducted within the buffer until the biologist has determined the nest is no longer active and has informed the construction supervisor that activities may resume.

BIO-8 Construction and O&M Mitigation Measures. In order to reduce the potential indirect impact on migratory birds and raptors, an APP shall be prepared following the USFWS’s guidelines and implemented by the project applicant. This APP shall outline conservation measures for construction and O&M activities that might reduce potential impacts on bird populations and shall be developed by the project applicant in conjunction with the County.

Construction conservation measures to be incorporated into the APP include:

1. Minimizing disturbance to vegetation to the maximum 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. Direct impact on 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 APP include:

1. Incorporate the Avian Powerline Interaction Committee’s guidelines for overhead utilities as appropriate to minimize avian collisions with transmission facilities (Avian Powerline Interaction Committee 2012).
2. Minimize noise.
3. Minimize use of outdoor lighting.
4. Implement 1 year of post-construction avian monitoring incorporating the Wildlife Mortality Reporting Program. Additional years of post-construction avian monitoring should only be required at the discretion of the qualified Biological Monitor should they determine that avian mortality is occurring and measures are necessary to be implemented to reduce observed avian mortality.

BIO-9 Raptor and Active Raptor Nest Avoidance. Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact on nesting raptors, such as red-tailed hawk, the following measures shall be implemented:

1. Initial grading and construction within the project site should take place outside the raptors' breeding season of February 1 to July 15.
2. 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 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-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.

Other Special-Status Wildlife Species

The project area contains potentially suitable habitat for other special-status wildlife species, including flat-tailed horned lizard and Yuma hispid cotton rat. To avoid, minimize, and mitigate impacts on flat-tailed horned lizard and Yuma hispid cotton rat during construction, the following measures are provided:

BIO-10 Flat-tailed Horned Lizard Focused Surveys. Surveys for flat-tailed horned lizards shall be conducted at least 14 days prior to ground disturbing activities following the standard protocols for this species. The current survey protocol for flat-tailed horned lizards is as follows. Transects consisting of parallel, linear routes shall be evenly spaced in areas of suitable habitat for flat-tailed horned lizards. The number and distribution of transects shall be such that a minimum of 10 hours of survey effort will be expended per 640 acres surveyed. Each transect shall be traversed by a single worker. On each transect, either scat or lizards shall be surveyed. The location of transects and each flat-tailed horned lizard and scat shall be recorded. However, all observations of horned lizards or scat will be noted regardless of whether the transect is a scat or lizard transect. Scat and lizard survey routes shall be alternated or randomly assigned to the transects. Three surveys shall be conducted, spaced at least 2 weeks apart from April through September. Lizard surveys shall be conducted when surface temperatures in the sun range from 35° to 50°C (95° to 122°F). Scat surveys shall not be conducted for at least 12 days after heavy rains, hailstorms, or strong winds of an intensity sufficient to move considerable amounts of sand across roads or to damage signs and trees. In addition, road surveys shall be conducted by driving all roads in or near the areas where transects are situated and recording observations of horned lizards. Surveyors shall drive very slowly (no faster than 10 miles per hour). Three road surveys shall be conducted from April through September. Roads shall be driven in the morning when substrate temperatures adjacent to the roads and in the sun range from 35° to 50°C (95° to 122°F). The location of each flat-tailed horned lizard observed shall be recorded. If flat-tailed horned lizards are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction (BIO-5).



BIO-11 Pre-construction Surveys for Yuma Hispid Cotton Rat. A pre-construction survey for Yuma hispid cotton rat shall be conducted by a qualified biologist 14 days prior to initiating ground disturbance activities. The survey shall consist of full coverage of the proposed disturbance limits and a 150-meter buffer, and can be performed concurrently with nesting bird surveys. If any Yuma hispid cotton rats are found during pre-construction surveys, a biological monitor may be needed during construction. If determined necessary, biological compliance monitoring will be conducted by a qualified biologist during construction (BIO-5).

Significance after Mitigation

The implementation of Mitigation Measures BIO-1 through BIO-5 would reduce impacts on burrowing owls to a level less than significant. Implementation of Mitigation Measures BIO-3 and BIO-5 through BIO-9 would reduce impacts on mountain plover, vermilion flycatcher, migratory birds, non-migratory birds, and nesting raptors to levels less than significant. Implementation of Mitigation Measures BIO-3, BIO-5, BIO-10, and BIO-11 would reduce impacts on flat-tailed horned lizard and Yuma hispid cotton rat to levels less than significant.

Impact 4.4-2 Possible Impact on Riparian Habitats or Other Sensitive Natural Communities.

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

The project site contains active agricultural and developed/disturbed vegetative communities. Only one sensitive vegetation community, arrow weed thickets, occurs adjacent to the project impact area. Therefore, implementation of the proposed project would not result in an impact on riparian habitats or other sensitive natural communities and no mitigation is required.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.4-3 Possible Impact on Wetlands.

Construction, operations, and maintenance of the proposed project would not impact jurisdictional resources as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means.

Approximately 15.54 acres of potential waters of the U.S., subject to USACE jurisdiction, and approximately 26.25 acres of waters of the state, subject to CDFW and RWQCB jurisdiction, were identified within the BSA, outside of the project impact area. During project construction, operations, and maintenance, no IID canal or drain structures would be removed, relocated, filled, hydrologically interrupted, or otherwise impacted. Project construction, operations, and maintenance would occur entirely within upland areas. Therefore, implementation of the proposed project would not result in an impact on USACE, CDFW, or RWQCB jurisdictional resources and it will not be necessary to acquire CWA 401/404 or CDFW Lake and Streambed Alteration Agreement permits and no mitigation would be required.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.4-4 Possible Impact on Wildlife Movement and Nursery Sites.

Construction, operations, and maintenance of the proposed project 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.

The project site is located in an area with active agriculture and existing developed/disturbed areas. The existing agricultural uses of the solar energy facility provide limited connectivity for terrestrial species based on the continued disturbance from cultivation practices. Under the proposed use, the mechanized disturbance would decrease once the solar panels are in place. The project's APP will also ensure that movement and corridor uses to avian species will not be impacted by the proposed projects (Mitigation Measure BIO-6). Native vegetation communities associated with drains and canals provide some function for wildlife movement. The project is not expected to impact these larger canals and drains or the vegetation composition within them. Thus, there are no anticipated impacts on wildlife movement or nursery sites, and no additional mitigation would be required. Therefore, implementation of the proposed project would result in a less than significant impact on wildlife movement and nursery sites.

Mitigation Measure(s)

No additional mitigation measures are required than those previously identified in this section for raptors (Mitigation Measure BIO-7).

Impact 4.4-5 Possible Conflict with Policies Protecting Biological Resources.

The project does not conflict with local policies, such as a tree preservation policy, or ordinances.

The project consists of the construction, operation, and maintenance of the solar energy facility and associated electrical transmission lines. Development of the solar facilities is subject to the County's zoning ordinance.

Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" and "Transmission lines, including supporting towers, poles microwave towers, utility substations" are uses that are permitted in the A-3 Zone, subject to approval of a CUP. As demonstrated in Table 4.4-1, with implementation of CUPs, and because the project sites are located in a disturbed, agricultural region, the projects would be consistent with Imperial County General Plan biological resources policies. Therefore, implementation of the proposed projects would not result in a significant impact associated the project's potential to conflict with local policies protecting biological resources.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.4-6 Possible Conflict with Local Conservation Plan(s).

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

The project site is not located in a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

4.4.3 Decommissioning/Restoration and Residual Impacts

4.4.3.1 Decommissioning/Restoration

Decommissioning activities will require construction vehicles to drive across the solar energy facility, gentie line, and access roads, which could result in ground disturbance and transportation of invasive weeds. Mitigation measures required to reduce potential impacts on sensitive wildlife species (e.g., burrowing owl, mountain plover, vermilion flycatcher, other special-status bird species, flat-tailed horned lizard, and Yuma hispid cotton rat) would be applicable during the decommissioning phase of the project as well. Therefore, implementation of Mitigation Measures BIO-1 through BIO-11 during decommissioning would reduce potential impacts on special-status wildlife species to a level less than significant.

4.4.3.2 Residual

The implementation of Mitigation Measures BIO-1 through BIO-5 would reduce impacts on burrowing owls to a level less than significant. Implementation of Mitigation Measures BIO-3 and BIO-5 through BIO-9 would reduce the potential impacts on mountain plover, vermilion flycatcher, migratory birds, non-migratory birds, and nesting raptors to a level less than significant. Implementation of Mitigation Measures BIO-3, BIO-5, BIO-10, and BIO-11 would reduce impacts on flat-tailed horned lizard and Yuma hispid cotton rat to levels less than significant.

The project would not result in any 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 project. The following identifies the existing cultural resources in the project area, analyzes potential impacts due to the implementation of the proposed project, and recommends mitigation measures to avoid or reduce potential impacts of the proposed project.

Information for this section is summarized from the *Cultural Resource Inventory for the Vega SES LLC Solar Project* prepared by ASM Affiliates. This report was prepared for the project when it was originally proposed on 494 acres. However, after completion of this report, the project was slightly modified to increase the overall project size by 80 acres by adding APN 051-390-012 to the project site. The original project site comprised approximately 494 acres of land. With the addition of APN 051-390-012, the revised total site acreage is approximately 574 gross acres of land. To account for the additional 80 acres, ASM Affiliates prepared the *Cultural Resource Inventory for the Vega SES LLC Solar Additional 80-Acres Project*. These reports are included in Appendix E1 and E2 of this EIR.

4.5.1 Environmental Setting

The project area 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. The project site occupies 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 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 (ICPDS 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 project.

Federal

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 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 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 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

The Office of Historic Preservation (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 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 52

AB 52 amends 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.

Senate Bill 18

SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to approvals and amendments of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Prior to the approval or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the Native American Heritage Commission [NAHC]) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts on, cultural places on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code §65352.3).

Public Resources Code Section 21074

This code 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. 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 been evaluated for the CRHR or is not included on a local register.

Assembly Bill 4239

This Bill established the 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)

PRC 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 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 project is summarized in Table 4.5-1.

Table 4.5-1. Project Consistency with Applicable General Plan Cultural Resources Goals and Objectives

General Plan Policies	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 project would 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 project is 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 site in native soils. If any cultural resource is found, the monitor will halt or redirect construction work.

Source: County of Imperial Conservation and Open Space Element 2016
 CEQA – California Environmental Quality Act; CRHR; California Register of Historical Resources

4.5.1.2 Existing Conditions

Cultural Setting

The project area is located in the Salton Basin in the Colorado Desert. Historically, as the Colorado River flowed to the California Gulf, through the Salton Trough during the Holocene, it created a periodic formation of an extensive freshwater lake known as Lake Cahuilla. This lake encompasses the entirety of the project area, lying approximately 25-35 feet below sea level. At least six Late Pleistocene infillings of Lake Cahuilla have left relic maximum shorelines but none of the Pleistocene stands are known to have cultural associations. Archaeological remains have been associated with the lake, leading to speculation that the lake may have continued to form and then recede throughout the middle Holocene. The lake is known to have been present at times but not continuously during the millennium prior to AD 1000. 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 the Colorado Desert, may be divided into four major temporal periods: Early Man (Malpais), Paleoindian (San Dieguito), Archaic (Pinto and Amargosa), and Late Prehistoric (Patayan). 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 Tipai- Ipai, 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 semisedentary 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

A records search at the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS), was performed for the original 494-acre project and a 1-mile buffer on March 24, 2017. A record search of the Sacred Lands File held by the NAHC was conducted on March 14, 2017, and had negative results. An additional letter was sent to the NAHC on November 6, 2017, requesting a record search for the additional 80-acre parcel. As of December 1, 2017, no response has been received. Data from the SCIC reveal that 40 previously conducted cultural resource studies have been conducted within the original 494-acre project area and 1-mile record search radius, two of which addressed the project area directly. Less than 25 percent of the project area has been previously surveyed for cultural resources.

Previously Recorded Resources

Ninety-eight cultural resources have been previously recorded within the record search area. Six cultural resources have been previously recorded within or adjacent to the original 494-acre project area. One cultural resource has been previously recorded within or adjacent to the additional 80-acre parcel. Of the six previously cultural resources that intersect the original 494-acre project area, all are historic and five are irrigation features. Only one of these resources (P-13-008334, Wormwood Canal System) intersects the additional 80-acre parcel.

P-13-008983, Wormwood Canal System

The Wormwood Canal is an irrigation canal that was constructed around 1911. It is located east of the Westside Main Canal and flows east and north in the Imperial Valley. Modifications were added to the canal in the 1960s. The entire canal is approximately 6 miles long, with its northern terminus at the Wormwood Drain and the southern terminus at the intersection of Drew Road and SR98. The Wormwood Canal System was first recorded in 1999 and recommended not eligible to the NRHP and the CRHR due to a lack of integrity. It was reported that the Wormwood Canal had been realigned and lined with concrete in place of its original earthen materials. The recordation was updated in 2011. ASM also updated the recordation of the Wormwood Canal System in 2011 and recommended that it is not eligible to the NRHP and the CRHR. In 2011, a segment of the Wormwood Canal that begins north of West Diehl Road, and ends 2.19 miles south at the

intersection of Drew Road and West Wixom Road was recorded. The southern terminus of this section is located just outside of the project area.

P-13-008334 / CA-IMP-3408

IMP-3408 was recorded from the 1854 USGLO Survey Notes by G. H. Derby as the “Cross Emigrant Trail, West.” No additional information was included.

P-13-008334 / IMP-7834, Westside Main Canal

Known as the Westside Main Canal, this is an irrigation canal that runs through agricultural land in Imperial Valley. As of 2011, segments of the Westside Main Canal have been recommended to be eligible for listing in the NRHP and CRHR under Criterion A/1 for its significance in the development of the Imperial Valley, although varying segments of the canal have been recommended as not eligible for the NRHP due to lack of integrity. The canal has been recorded as being approximately 75 feet wide and is either banked by earthen levees of vegetation or concrete lined. Dirt roads run along the levees on both sides of the canal for maintenance and dredging access.

P-13-012689, Fern Canal and Drain System

The Fern Canal and Drain System is an irrigation canal constructed around 1909. It is located west of Liebert Road, and flows north from the Westside Main Canal to an area north of the community of Seeley. The canal is approximately 10 miles long, 10 feet wide, and about 6 feet deep. It is lined with concrete and underwent modifications in the 1960s. In a previous evaluation in 2009, the Fern Canal and Drain System was not recommended as eligible for NRHP and CRHR due to a lack of historic integrity. In 2011 ASM and Chambers updated the recordation for portions of the canal system and also recommended the canal is not eligible to the NRHP and the CRHR due to a lack of integrity. In 2011 and 2012 the record for the Fern Canal and Drain System was updated, but it was not evaluated.

P-13-012692, Fern Check

The Fern Check is a large structure that controls and measures the flow of water in the Westside Main Canal entering the Fern Side Main Heading and into the Fern Side Main, which runs parallel to the Westside Main Canal. It is a concrete and metal structure with four openings that span the width of the Westside Main Canal. The Fern Check was previously recorded in 2010 and was recommended as not eligible for the NRHP or CRHR. The reason was the lack of historic integrity retained by the Fern Check due to improvements and reconstruction that may have occurred since the 1950s. The feature also does not appear to have sufficient integrity of workmanship, design, setting, feeling, and association. The Fern check is mapped within the project area; however, the mapped location, is significantly larger than the actual resource, and the Fern Check is located within the Westside Main Canal on the south side of Mandrapa Road, approximately 140 feet from the project area.

P-13-013748, Fig Drain

A portion of the Fig Drain was recorded in 2011. It is an earthen drainage feature associated with the IID system. The width of the drain varies, and it is channeled below several roads through the use of crossings and pipe culverts with concrete winged walls. Although this resource has not been completely surveyed, portions were evaluated for the Campo Verde Solar Project APE in 2011, and it was recommended that the Fig Drain is eligible for NRHP and CRHR. Although associated with the

early irrigation system of the Imperial Valley and the local theme of agricultural development, it lacks sufficient historic integrity to be eligible.

Historic Addresses

Five historic addresses have been previously recorded within the record search radius, two of which are within the project area.

- Outside Project Area
 - Vogel Road and Mandrapa Road, El Centro, 92243
 - 2094 W. Wixom Road, El Centro, 92243
 - 1905 W. Wixom Road, El Centro, 92243
- Inside Project Area
 - Liebert Road and Mandrapa Road #1 (P-13-013567), El Centro, 92243
 - 1105 Liebert Road, El Centro, 92243

Archaeological Survey

Archaeological surveys for the original 494-acre project area were conducted from April 17 to 20, 2017. The original 494-acre project area was systematically surveyed in 15 meter intervals running primarily north-south. An archaeological survey for the additional 80-acre project area was performed on November 3, 2017. The additional 80-acre project area was systematically surveyed in 15 meter intervals running primarily east-west. The surveys included all elements of the project area and any isolates, sites, and features were to be recorded. The survey took place, primarily on agricultural fields with ground surface visibility of approximately 10 to 15 percent. Along the perimeters of the agricultural fields there was standing water and modern refuse. Cultural resources within and adjacent to the project area are summarized in Table 4.5-2.



Table 4.5-2. Summary of Cultural Resources Within and Adjacent to Project Area

Trinomial (CA-IMP-)	Primary # (P-13-)	Temp Site #	Type	Description
3408-H	003408	--	AH7: Road/Trail	Cross Emigrant Trail West
7834	008334	--	HP20: Canal/Aqueduct	Westside Main Canal
--	008983	--	HP20: Canal/Aqueduct	Wormwood Canal System
--	012689	--	HP20: Canal/Aqueduct	Fern Canal, Drain, and Side Main System
--	012692	--	HP20: Canal/Aqueduct	Fern Check
--	013748	--	HP20: Canal/Aqueduct	Fig Drain is an earthen drainage feature associated with the IID system of canals
--	--	JL-I-1	AH16. Historic isolate	Ceramic sherd
--	--	JL-I-2	AH16. Historic isolate	Ceramic sherd
--	013567	Liebert and Mandrapa #1	HP4. Ancillary Building	Shed
--	--	1105 Liebert Road	HP2. Single-Family Property	Bryant Residence

Source: Appendix E1 and E2 of this EIR

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;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in PRC §21074.

4.5.2.2 Methodology

This analysis evaluates the potential for the project, 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.

Information for this section is summarized from the *Cultural Resource Inventory for the Vega SES LLC Solar Project* and *Cultural Resource Inventory for the Vega SES LLC Solar Additional 80-Acres Project* prepared by ASM Affiliates. These reports are included in Appendix E1 and E2 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 project was also used to evaluate potential impacts.

4.5.2.3 Impact Analysis

Impact 4.5-1 Impact to Historical Resources.

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

To be considered historically significant, a resource must meet one of four criteria for listing outlined in the 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.

Based on the record searches and archaeological surveys conducted, 10 cultural resources have been recorded within or directly adjacent to the project area (Table 4.5-2). Five cultural resources (P-130-008334, Westside Main Canal; P-13-008983, Wormwood Canal System; P-13-012689, Fern Canal, Drain, and Side Main System; P-13-012692, Fern Check; and P-13-013748, Fig Drain) are classified as irrigation canals/aqueducts and most are found adjacent to the project area. Those resources whose segments can be found in the project area would not be directly impacted by the project.



The Cross Emigrant Trail West (P-13-003408/IMP-003408) was not identified within the project area. Therefore, implementation of the project would not result in a direct effect to this resource.

Two isolates were found (JL-I-1 and JL-I-2) but are not eligible to the CRHR and not significant under CEQA.

Two historic addresses (P-13-013567, Liebert and Mandrapa #1 and 1105 Liebert Road) were previously recorded within the project area. P-13-013567 is an ancillary building, previously recommended not eligible to the NRHP and the CRHR and the building at 1105 Liebert Road has been demolished, therefore project implementation would not result in a direct effect to these resources. Therefore, no historical resources identified within the project area would be directly impacted by implementation of the project and no impact would occur.

Mitigation Measure(s)

No mitigation measures required.

Impact 4.5-2 Impact to Archaeological Resources.

The proposed project 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 project on those resources shall not be considered a significant effect on the environment.

As described above, 98 cultural resources have been previously recorded within the record search area. Based on the record searches and archaeological surveys conducted, 10 cultural resources have been recorded within or directly adjacent to the project area (Table 4.5-2). As discussed under Impact 4.5-1, the proposed project would have no direct effect on the ten cultural resources that have been recorded within or directly adjacent to the project area.

However, the project includes ground-disturbing activities that will extend to depths of 20 feet below the ground surface. As such, the project has the potential to disturb previously undocumented

cultural resources that could qualify as unique archaeological resources pursuant to CEQA. This potential impact is considered significant. Implementation of proposed Mitigation Measures CR-1 and CR-2 would reduce the potential impact to a level less than significant.

Mitigation Measure(s)

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 project 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 site.

Impacts to any surface or near-surface level paleontological resources may occur due to grading and disturbance of the area. Even relatively shallow excavations in the Lake Cahuilla beds exposed in the project area may encounter significant vertebrate fossil remains. This potential impact is considered significant. 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. Implementation of Mitigation Measure CR-3 would reduce the impact on paleontological resources to a level less than significant.

Mitigation Measure(s)

CR-3 In the event that unanticipated paleontological resources or unique geologic resources are encountered during ground-disturbing activities, work must cease within 50 feet of the discovery and a paleontologist shall be hired to assess the scientific significance of the find. The consulting paleontologist shall have knowledge of local paleontology and the minimum levels of experience and expertise as defined by the Society of Vertebrate Paleontology’s Standard Procedures (2010) for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. If any paleontological resources or unique geologic features are found within the project site, the consulting paleontologist shall prepare a paleontological Treatment and Monitoring Plan to include the methods that will be used to protect paleontological resources that may exist within the project site, as well as procedures for monitoring, fossil preparation and identification, curation of specimens into an accredited repository, and preparation of a report at the conclusion of the monitoring program.

Impact 4.5-4 Impact to Human Remains.

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

During the construction and operational phases of the proposed project, 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 potential impact is considered a significant impact. Mitigation Measure CR-4 will ensure that the potential impacts to previously unknown human remains do not rise to the level of significance pursuant to CEQA. Implementation of Mitigation Measure CR-4 will reduce the potential impact associated with inadvertent discovery of human remains to a level less than significant.

Mitigation Measure(s)

CR-4 In the event that evidence of human remains is discovered, construction activities within 200 feet of the discovery will be halted or diverted and the Imperial County Coroner will be notified (Section 7050.5 of the Health and Safety Code). If the Coroner determines that the remains are Native American, the Coroner will notify the

Native American Heritage Commission which will designate a (MLD for the project (Section 5097.98 of the PRC). The designated MLD then has 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains (AB 2641). If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (Section 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (Section 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a document with the county in which the property is located (AB 2641).

Impact 4.5-5 Impact to Tribal Cultural Resources.

The proposed project would not cause a substantial adverse change in the significance of a tribal cultural resource.

The NAHC maintains the confidential SLF which contains sites of traditional, cultural, or religious value to the Native American community.

A record search of the Sacred Lands File held by the NAHC was conducted on March 14, 2017, and had negative results. The NAHC responded on March 14, 2017 that the record search had negative results. A list of 15 Native American individuals and organizations were included to contact for further information regarding the project area. Letters were sent to the 15 contacts on April 3, 2017, and no responses have been received. An additional letter was sent to the NAHC on November 6, 2017, requesting a record search for the additional 80-acre parcel. As of December 1, 2017, no response has been received.

AB 52 was passed in 2014 and took effect on July 1, 2015. It establishes a new category of environmental resources that must be considered under CEQA called tribal cultural resources (PRC 1074) and establishes a process for consulting with Native American tribes and groups regarding those resources. AB 52 requires a lead agency to begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the geographic areas of the proposed project. In accordance with AB 52, the County provided notification of the proposed project to Native American tribes that the County understands to be traditionally and culturally affiliated with the geographic areas of the proposed projects. The County has requested for tribes to provide any information regarding any Traditional Cultural Properties, Sacred Sites, resource collecting areas, or any other areas of concern known to occur in the project area. The Quechan Indian Tribe submitted a response letter on July 2, 2018 requesting consultation with the Imperial County Planning and Development Services Department on the proposed project. Mitigation Measure CR-5 would ensure that the potential impacts on unidentified tribal cultural resources do not rise to the level of significance.

Mitigation Measure(s)

- CR-5** If previously unidentified tribal cultural resources are identified during construction activities, construction work within 100 feet of the find shall be halted and directed away from the discovery until a Secretary of the Interior qualified archaeologist and tribal representative assesses the significance of the resource. The archaeologist, in consultation with Imperial County and any interested Tribes, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are determined to be a tribal cultural resource as defined in PRC Section 21074.

4.5.3 Decommissioning/Restoration and Residual Impacts

4.5.3.1 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 project.

4.5.3.2 Residual

Implementation of Mitigation Measures CR-1 and CR-2 would reduce potentially significant impacts on unknown archaeological materials during construction of the project site. Implementation of Mitigation Measure CR-3 would ensure that the potential impacts on paleontological resources do not rise to the level of significance pursuant to CEQA. Implementation of Mitigation Measure CR-4 would reduce potential impacts on human remains to a level less than significant. Mitigation Measure CR-5 would ensure that the potential impacts on unidentified tribal cultural resources do not rise to the level of significance. No unmitigable impacts on cultural resources would occur with implementation of the project.

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4.6 Geology and Soils

This section provides an evaluation of the project in relation to existing geologic and soils conditions within the project area. Information contained in this section is summarized from the *Geotechnical Report* for the project prepared by Landmark Consultants, Inc. This report is included in Appendix F of this EIR. This section also utilizes information from publications made available by the California Geological Survey (CGS) and the Imperial County General Plan.

4.6.1 Environmental 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.

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 site is the potential for strong groundshaking because of 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 state and local laws, policies, and regulations that are applicable to the project.

State

Alquist-Priolo Special Studies Zone Act

The Alquist-Priolo (AP) Special Studies Zone Act was passed into law following the destructive February 9, 1971 San Fernando earthquake. The AP Special Studies Zone Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis. The intent of the AP Special Studies Zone 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 AP Earthquake Fault Zone Maps produced by the California Geologic Survey, the project site is not located in an AP Earthquake fault zone.

California Building Code

The California Building Standards Commission is responsible for coordinating, managing, adopting, and approving building codes in California. 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 HSC Section 18980 and HSC Section 18902 give CCR Title 24 the name of California Building Standards Code.

Local

County Land Use Ordinance

Title 9 Division 15 (Geological Hazards) of the County Land Use Ordinance has established procedures and standards for development within earthquake fault zones. Per County regulations, construction of buildings intended for human occupancy are prohibited across the trace of an active fault. 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. The proposed project does not include any residential structures nor are any active faults located across the project site.

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 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 project with specific policies contained in the County of Imperial General Plan associated with geology, soils, and seismicity. While this EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 151250, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.



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 health and safety considerations in land use planning.	Consistent	<p>Division 5 of the County Land Use Ordinance has established procedures 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.</p> <p>Since the project site is located in a seismically active area, the project is required to be designed in accordance with the CBC. It should be noted that the project 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.</p> <p>A design-level geotechnical investigation will be conducted to evaluate the potential for site specific hazards associated with seismic activity.</p>
Objective 1.1. Ensure that data on geological hazards is incorporated into the land use review process, and future development process.		
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.		
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 because of 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.		

Source: ICPDS 1993
 CBC = California Building Code

4.6.1.2 Existing Conditions

Geology

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 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.

Ground Shaking

Ground shaking is the byproduct of an earthquake and is the energy created as rocks break and slip along a fault. 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.

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 AP Special Studies Zone Act traverse the project site. Therefore, the potential for surface fault rupture is considered to be low at the project site.

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.

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 site is located on relative 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 the site investigation (Appendix F of this EIR).

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) because of the rearrangement of soil particles during prolonged ground shaking. Transitions between compacted and non-compacted surfaces could present implications for utility infrastructure on the project site and is discussed further in the impact analysis.

Soil Resources

There are five predominant soil types within the boundaries of the project site, which are described in Table 4.6-2.

Table 4.6-2. Soil Resources within the Project Site

Soil Symbol	Soil Name	Description
110	Holtville silty clay	The Holtville Series consists of very deep, well drained soils formed in mixed and stratified alluvium. Holtville soils occur on flood plains and basins. These soils are well drained, runoff is low, and permeability is slow.
114	Imperial silty clay	The Imperial series is derived from clayey alluvium mixed sources and/or clayey lacustrine deposits derived from mixed sources. These soils are moderately well drained, runoff is slow or very slow, and permeability is very slow.
122, 123	Meloland and Holtville loams	The Meloland soils are naturally well drained, but commonly have perched water tables under irrigation. Surface runoff is low or medium, and permeability is slow. Tile drains have been used extensively to improve drainage and remove salts in irrigated soils.
135	Rositas	The Rositas series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. Rositas soils are on dunes and sand sheets. Slope ranges from 0 to 30 percent with hummocky or dune micro relief. Mean annual precipitation is about 4 inches and the mean annual air temperature is about 72 ° Fahrenheit
142, 144	Vint loamy very fine sand	The Vint series consists of very deep, soils formed in stratified stream alluvium. Vint soils occur on flood plains. Vint soils are somewhat excessively drained, runoff is very slow, and permeability is moderately rapid.

Source: U.S. Department of Agriculture Soil Conservation Service 1981

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.

The native surface clays encountered in the near surface soil exhibit low to high swell potential when correlated to Plasticity Index tests performed on the native clays. The clay is expansive when wetted and can shrink with moisture loss (drying) (Appendix F of this EIR).

The native soils has low to severe levels of chloride ion concentration. 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.

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.



4.6.2.1 Thresholds of Significance

Based on CEQA Guidelines Appendix G, project impacts related to geology and soils 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 AP 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
- 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 project, as described in Chapter 3, Project Description, to interact with local geologic and soil conditions on the project site. 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.

4.6.2.3 Impact Analysis

Impact 4.6-1 Possible Risks to People and Structures Caused by Strong Seismic Ground Shaking.

The project site 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.

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 nearest mapped major Earthquake Fault Zone to the project site is an unnamed fault located approximately 2.9 miles west of the project site. Other nearby mapped Earthquake Fault Zones include the Laguna Salada fault and the Superstition Hills fault. 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 site. 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. The primary seismic hazard at the project site is the potential for strong groundshaking during earthquakes. The project is considered likely to be subjected to moderate to strong ground motion from earthquakes in the region.

Even with the integration of building standards, ground shaking within the project site could cause some structural damage to the facility structures or, at least, cause unsecured objects to fall. During a stronger seismic event, ground shaking could expose employees to injury from structural damage or collapse of electrical distribution facilities. 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, such as transmission lines and substation could be damaged.

As stated above, liquefaction can produce excessive settlement, ground rupture, lateral spreading, or failure of shallow bearing foundations. Liquefaction may pose a risk to people or structures around the project site. Four conditions are generally required for liquefaction to occur, including: 1) saturated soil, 2) loosely packed soil, 3) relatively cohesionless soil, and 4) groundshaking of sufficient intensity must occur to trigger the mechanism. All four conditions may exist to some degree at the project site. The soil encountered at the points of exploration included saturated silts and silty sands that could liquefy during a Maximum Considered Earthquake. The likely triggering mechanism for liquefaction would be strong groundshaking associated with the rupture of the Laguna Salada fault or nearby faults. The potential impact on liquefaction is considered a significant impact. Implementation of Mitigation Measure GEO-1 would reduce the potential liquefaction impact to a level less than significant.

No portion of the project site is located on an active fault or within a designated AP Zone and, therefore, the potential for ground rupture to occur within the project site is unlikely. Surface rupture because of faulting within the project site is not expected to occur and hazards related to rupture along a known earthquake fault are considered unlikely. Similarly, in the context of the flat topography within the project site, the potential for earthquake induced landslides to occur at the site is unlikely. For these reasons, no significant impact has been identified associated with these geologic issues.

Mitigation Measure(s)

GEO-1 Implement Required Measures as described in the Geotechnical Report. Prior to approval of final engineering and grading plans for the project, the County shall verify that all recommendations contained in the Geotechnical Report for the Vega SES Solar Facility prepared by Landmark Consultants, Inc. (August 2018) have been incorporated into all final engineering and grading plans. The County's soil engineer and engineering geologist shall review grading plans prior to finalization to verify compliance with the recommendations of the report. All future grading and construction of the project site shall comply with the geotechnical recommendations contained in the geotechnical report. Significance after Mitigation

With the implementation of the Mitigation Measure GEO-1, potential impacts associated with strong seismic groundshaking and liquefaction would be reduced to a less than significant level with the implementation of recommendations in the geotechnical report.



Impact 4.6-2 Unstable Geologic Conditions.

The project would not be located on a geologic unit or soil that is unstable, or that could become unstable as a result of the project.

Based on the discussions provided for geologic hazards within the setting description, the primary concerns related to local geologic conditions is related to settlement and differential settlement. Settlement could potentially occur from the placement of new static loads with possibly half of the settlement taking place during construction or shortly thereafter. Differential settlement could occur between foundation blocks or slabs because of variability in underlying soil conditions. Total and differential settlement could therefore damage proposed foundations, structures, and utilities. Therefore, these direct and indirect impacts are considered significant impacts and require mitigation. Implementation of Mitigation Measure GEO-1 would reduce the potential geologic hazards associated with total and differential settlement to a level less than significant.

Mitigation Measure(s)

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

Significance after Mitigation

With the implementation of the Mitigation Measure GEO-1, potential impacts associated with settlement and differential settlement would be reduced to a less than significant level with the implementation of recommendations in the geotechnical report.

Impact 4.6-3 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.

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 project is 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. 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 project's long-term impact in terms of soil erosion and loss of

topsoil would be less than significant. In addition, with implementation of Mitigation Measure HWQ-1 the potential impact associated with erosion from construction activities would be reduced to a less than significant level with the preparation and implementation of a SWPPP, including best management practices (BMP) to reduce erosion from the construction site.

Mitigation Measure(s)

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

Significance after Mitigation

With implementation of Mitigation Measure HWQ-1 in Section 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 project could encounter expansive or corrosive soils thereby subjecting related structures to potential risk of failure.

As provided in the environmental setting, soil materials within the project site generally contain clay, which may exhibit a moderate to high potential for shrink-swell. Unless properly mitigated, shrink-swell soils could exert additional pressure on buried structures and electrical connections producing shrinkage cracks that could allow water infiltration and compromise the integrity of backfill material. These conditions could be worsened if structural facilities are constructed directly on expansive soil materials. The native soils were found to have low to severe levels of sulfate ion concentration that can cause weakening of the cement matrix and eventual deterioration by raveling. The project site is also found on lacustrine site soils (lake bed deposits), known to be corrosive. These impacts would be a significant impact as structures could be damage by these types of soils. Implementation of Mitigation Measure GEO-1 would reduce impacts from problematic soils to a level less than significant.

Mitigation Measure(s)

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

Significance after Mitigation

With implementation of the mitigation measure listed above, soil-related hazards in terms of expansive and corrosive soils would be reduced to a less than significant level because the County shall will be required to verify that all recommendations contained in the geotechnical report prepared for the project have been incorporated into all final engineering and grading plans.

Impact 4.6-5 On-site Wastewater Treatment and Disposal.

The project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems.

The proposed project would not require an O&M building. The proposed solar facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. No septic or other wastewater disposal systems would be required for the project. Therefore, the



proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems and no impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

4.6.3 Decommissioning/Restoration and Residual Impacts

4.6.3.1 Decommissioning/Restoration

Decommissioning and restoration of the project site at the end of its use as a solar facility would involve the removal of structures and restoration to prior (pre-solar project) conditions. No geologic or soil impacts associated with the restoration activities would be anticipated, and therefore, no impact is identified.

4.6.3.2 Residual

With implementation of Mitigation Measures GEO-1 and HWQ-1, impacts related to strong seismic ground-shaking, construction-related erosion, and soil hazards related to settlement and corrosion, would be reduced to less than significant levels. The proposed project 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 GHG emissions within the project area and identifies applicable federal, state, and local policies related to global climate change (GCC). The impact assessment provides an evaluation of potential adverse effects with regards to GHG emissions based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 3, Project Description. EMA prepared the *Air Pollutant Emissions Assessment* in December 2017 for the proposed project. This report is included in Appendix C of this EIR.

4.7.1 Environmental Setting

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, CO₂, methane (CH₄) and nitrous oxide (N₂O), 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.

State law defines GHGs as any of the following compounds CO₂, CH₄, N₂O, hydrofluorocarbons (HFC), perfluorocarbons (PFC) and sulfur hexafluoride (SF₆) (California HSC Section 38505(g)).

Carbon Dioxide (CO₂) is a colorless, odorless gas consisting of molecules made up of 2 oxygen atoms and 1 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 4 hydrogen atoms and 1 carbon atom. CH₄ is combustible, and it is the main constituent of natural

gas-a fossil fuel. CH_4 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 CH_4 . 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 (CFC) are gases formed synthetically by replacing all hydrogen atoms in CH_4 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 (HFC) 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 global warming potential (GWP). HFCs are synthesized for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons (PFC) 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 (SF_6) 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 GCC. 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 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 2016 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 GWP gases.

When accounting for GHGs, all types of GHG emissions are expressed in terms of CO₂ equivalents (CO₂e) and are typically quantified in metric tons (MT) or millions of metric tons (MMT).

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 CO₂; therefore, CO₂ has a GWP of 1. The other main GHGs that have been attributed to human activity include CH₄, which has a GWP of 21, and N₂O, which has a GWP of 310.

Table 4.7-1. California Greenhouse Gas Emissions Inventory 2000-2016

Sector	Total 2000 Emissions (MMTCO ₂ e)	Total 2016 Emissions (MMTCO ₂ e)
Agriculture	31.60	33.84
Commercial and Residential	43.18	39.36
Electric Power	104.84	68.58
Industrial	97.41	89.61
Transportation	180.98	169.38
Recycling and Waste	7.35	8.81
High GWP Gases	6.33	19.78

Source: CARB 2018

GWP = global warming potential; MMTCO₂e = million metric tons of CO₂ equivalent

4.7.1.1 Regulatory Setting

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

State

Executive Order S-3-05 – Statewide Greenhouse Gas Emissions Targets

On June 1, 2005, the Governor issued Executive Order (EO) S-3-05 which set the following GHG mission 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

This EO also directed the secretary of the California Environmental Protection Agency (Cal EPA) to oversee the efforts made to reach these targets, and to prepare biannual biennial reports on the progress made toward meeting the targets and on the impacts on California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every 2 years thereafter.

California Global Warming Solutions Act (Assembly Bill 32)

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 million MTCO_{2e}, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 million MTCO_{2e}.

Under the “business as usual” (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 million MTCO_{2e} would have required a 28 percent reduction to reach the 1990 level of 427 million MTCO_{2e}.

Executive Order B-30-15

On April 20, 2015 Governor Edmund G. Brown Jr. signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s EO aligns California’s GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California is on track to meet or exceed its legislated target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, summarized above). California’s new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2°C, the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels. The targets stated in EO B-30-15 have not been adopted by the state legislature.

Senate Bill 32

SB 32 was signed into law on September 8, 2016, and expands upon AB32 to reduce GHG emissions. SB-32 sets into law the mandated GHG emissions target of 40 percent below 1990 levels by 2030 written into EO B-30-15.

Climate Change Scoping Plan

The Scoping Plan released by CARB in 2008 outlined the State’s strategy to achieve the AB 32. 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 at its meeting in December 2008. According to the Scoping Plan, the 2020 target of 427 million MTCO_{2e} requires the reduction of 169 million MTCO_{2e}, or approximately 28.3 percent, from the State’s projected 2020 BAU emissions level of 596 million MTCO_{2e}.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. 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 million MTCO_{2e}, 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 9 Early Action Measures into a list of 39 Recommended Actions.

In May 2014, CARB developed; in collaboration with the CAT, the First Update to California's Climate Change Scoping Plan (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 million MTCO_{2e}, therefore the 2020 GHG emissions limit established in response to AB32 is now slightly higher than the 427 million MTCO_{2e} in the initial Scoping Plan.

Assembly Bill 1493

AB 1493 (Pavley) requires the CARB to develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal corporate average fuel economy (CAFÉ) rules for passenger vehicles. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars.

Executive Order S-01-07

EO S-01-07, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a low carbon fuel standard (LCFS) for transportation fuels be established for California and directs the CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. The CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. On December 29, 2011, District Judge Lawrence O'Neill in the Eastern District of California issued a preliminary injunction blocking the CARB from implementing LCFS for the remainder of the *Rocky Mountain Farmers Union* litigation. The injunction was lifted in April 2012 so that CARB can continue enforcing the LCFS pending CARB's appeal of the federal district court ruling.

Renewable Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, the Governor signed SB 2 (1X) codifying California's 33 percent RPS goal; Section 399.19 requires the California Public

Utilities Commission (CPUC), in consultation with the California Energy Commission (CEC), to report to the Legislature on the progress and status of RPS procurement and other benchmarks. The purpose of the RPS upon full implementation is to provide 33 percent of the state's electricity needs through renewable energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

The RPS is included in CARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. In 2008, as part of the Scoping Plan original estimates, CARB estimated that full achievement of the RPS would decrease statewide GHG emissions by 21.3 million MT of CO₂e. In 2010, CARB revised this number upwards to 24.0 million MT of CO₂e.

Senate Bill 97

SB 97 acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with the Legislature's directive in PRC section 21083.05.

Senate Bill 375 – Regional Emissions Targets

SB 375 was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's RTP.

Senate Bill 350

SB 350 was signed into law in September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

California Code of Regulations Title 24

Although not originally intended to reduce GHG emissions, CCR 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.

County of Imperial

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the 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. Worldwide, average temperatures are likely to increase by 3 ° to 7 ° Fahrenheit by the end of the 21st century. 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. Climate change impacts on 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.

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 Agency 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 ° Fahrenheit 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.

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 greenhouse gas emissions 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
- 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:

1. 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;
2. 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.

The GHG analysis in 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 BAU conditions. BAU 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 project would be combustion of fossil fuels during construction of the project. 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 Pollutant Emissions Assessment* in Appendix C of this EIR.

The project applicant is considering two mounting configuration options for the PV modules: a fixed-frame PV array option or a HSAT PV array option. These two options are modeled as having the same emissions during construction, and only a slight difference in GHG emissions during operations.

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 project would result in a temporary increase in GHG emissions.

Construction and operation of the 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 site. During construction, GHG emissions would be generated from operation of both on-road and off-road equipment. Once operational, GHG emissions would be limited to vehicle trips associated with routine maintenance and monitoring activities at the project site.

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 indicated above, the project applicant is considering two mounting configuration options for the PV modules. These two options are modeled as having the same emissions during construction. The amortized construction emissions for the proposed project would be 34 MTCO_{2e} per year.

During operations, GHG emissions would be limited to vehicle trips associated with routine maintenance and monitoring activities at the project site. As shown in Table 4.7-2, operational emissions for the project with the HSAT PV array option would be 229 MTCO_{2e} per year. The

amortized construction plus annual operation for the project with the HSAT PV array option would be 263 MTCO_{2e} per year. As shown in Table 4.7-3, operational emissions for the project with the fixed frame PV array option would be 219 MTCO_{2e} per year. The amortized construction plus annual operation for the project with the fixed frame PV array option would be 253 MTCO_{2e} per year. Regardless of the PV array option, the proposed project’s GHG emissions would not exceed SCAQMD’s threshold of 3,000 MTCO_{2e}. Therefore, implementation of the proposed project would result in a less than significant impact associated with the generation of GHG emissions. A similar scenario would occur during the decommissioning and site restoration stage for the project. GHG emissions would be similar to or less than the emissions presented for construction.

Table 4.7-2. Summary of Construction and Operational Greenhouse Gas Emissions - Horizontal Single-Axis Tracker Technology

Phase	MTCO _{2e} per year
Construction	1,010
<i>Construction Emissions amortized over 30 years</i>	<i>34</i>
Operation (HSAT Technology)	229
TOTAL	263

Source: Appendix C of this EIR

HSAT = horizontal single-axis sun tracking; MTCO_{2e} = million metric tons of CO₂ equivalent

Table 4.7-3. Summary of Construction and Operational Greenhouse Gas Emissions - Fixed Frame Technology

Phase	MTCO _{2e} per year
Construction	1,010
<i>Construction Emissions amortized over 30 years</i>	<i>34</i>
Operation (Fixed Frame)	219
TOTAL	253

Source: Appendix C of this EIR

MTCO_{2e} = million metric tons of CO₂ equivalent

Mitigation Measure(s)

No mitigation measures are required.



Impact 4.7-2 Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases.

The project 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 project would not conflict with applicable plans, policies, or regulations.

As discussed in Impact 4.7-1, the project would generate a relatively small amount of GHG emissions. 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 project would help the State meet this goal by generating up to 100 MW of power to California's current renewable portfolio. Therefore, the project would help the state meet its goal under AB 32. The project 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 project 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

4.7.3.1 Decommissioning/Restoration

Similar to construction activities, decommissioning and restoration of the project site would result in GHG emissions below allowable thresholds. Construction activities during decommissioning and restoration would adhere to Mitigation Measures AQ-1 and AQ-2 outlined in Section 4.3, Air Quality, of this EIR, further reducing GHG emissions. Therefore, impacts are considered less than significant.

4.7.3.2 Residual

As described in this section, the project does not result in significant GHG emissions impacts. Operation of the project, subject to the provision of a CUP, would generally be consistent with AB 32. Based on these circumstances, the project would not result in any residual significant and unavoidable impacts with regards to GCC.

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4.8 Hazards and Hazardous Materials

Information contained in this section is summarized from the Phase I ESA prepared by GS Lyon Consultants, Inc. (GS Lyon). The Phase I ESA prepared for the project site was used to assess the potential hazards and hazardous materials found on site or adjacent to the project site. The Phase I ESA report is included in Appendix G of this EIR. This section addresses potential hazards and hazardous materials for construction and operational impacts.

4.8.1 Environmental Setting

The project site is located in an agriculturally zoned area of Imperial County. The project site consists of agricultural fields that are currently under cultivation. The potential for an accident is increased in regions near major arterial roadways or railways that transport hazardous materials 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 1-mile radius of the project site. 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 site. Additionally, state and federal regulatory lists containing information regarding hazardous materials on or within a 1-mile radius (buffer zone) of the project site were reviewed. Results of the background review are presented in the Phase I ESA prepared by GS Lyon (Appendix G of this EIR).

According to the historical aerial photographs (1937), the north and westernmost areas of the project site were developed as agricultural fields. The southeast corner of the project was also an agricultural field. Rural residence/farm shops were located on the west side of the northernmost portion of the project site adjacent to Drew Road and in the southwest corner of the project site. The remainder of the project site was vacant desert land. In 1956, the entire project site was developed for agricultural fields with the residence/farm shop still present in the northeast portion of the site. In 1976, the residence/farm shop has been removed and the project site was comprised of agricultural fields. The rest of the aerial photographs, from 1985 to 2016, show the project site being under agricultural cultivation.

Because of the project site location, Sanborn Fire Insurance Maps were not available for the project site.

Site Reconnaissance

Visual site reconnaissances were conducted within the project area by GS Lyon on March 29, 2017, and May 25, 2018. The site visits 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 reconnaissances also included site observations 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.

4.8.1.1 Regulatory Setting

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

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 United States Code 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 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.”

Occupational Safety and Health Administration

The 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 OSHA 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.

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 2 million tons of hazardous waste. One hundred thousand privately and 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.

Cal-EPA and the 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, CDFW, RWQCB, Imperial County Sheriff's Department, Imperial County Fire Department (ICFD), and the City of Imperial Police Department.

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 CUPA. 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

The project site encompasses 574 gross acres of agricultural land, developed for agricultural uses since the late 1940's. The project site is located in a rural agricultural areas of southwestern Imperial Valley. The project site is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road. The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. Field roads and concrete irrigation ditches cross the site and border the property. The Fig Drain, an earthen irrigation run-off water drainage canal, forms the northwestern property boundary.

Existing Environmental Hazards

Underground and Aboveground Storage Tanks, Drums, or Containers

No USTs and ASTs were observed within the project site during the site reconnaissance. No drums or storage containers, other than a tank containing anhydrous ammonia use for fertilizer for the fields, nor any open or damaged containers containing unidentified substances were observed at the subject site. Historical records indicate the presence of an above ground fuel storage tank at Kuhn Land Leveling located at 1240 Drew Road. This location is approximately 500 feet northeast of the northeast corner of the subject property. No reports of spills or leaks were identified in the EDR report for this risk site.

Surface Staining

No evidence of stained soil or pavement was noted on the property.

Sewer/Water

No evidence of septic systems or wells was observed on the property.

Suspect Polychlorinated Biphenyl Containing Equipment

No polychlorinated biphenyls- (PCB-) containing equipment, such as electrical transformers, capacitors, and hydraulic equipment, were observed during the site reconnaissance on the project site or immediate vicinity. Three pole mounted electrical transformers were noted on the eastern margin of the project site approximately 2,000 feet south of Wixom Road. The IID owns and maintains the transformers. In recent years, the IID has replaced all transformers that contained PCB's. No leaks were noted during the site visit.

Hazardous Building Materials and Pesticides

Hazardous building materials and pesticides are associated with any older buildings because of their age and the agricultural land uses. Because of the lack of site structures and site development on the project site, the potential for the existence of asbestos-containing materials and lead based paint residues is very low. Based on the review of environmental records, historical documents, and site conditions, the property has been in agricultural use since the late 1940s. Residues of currently available pesticides and currently banned pesticides, such as Dichlorodiphenyltrichloroethane/

Dichlorodiphenyldichloroethylene (DDT/DDE) may be present in near surface soils in limited concentrations.

The project site has been used for and is currently in agricultural production. Consequently, there is a potential for the project site to contain hazards related to pesticide and herbicide use from aerial and/or ground application. 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. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25 percent of the current regulatory threshold limits and are not considered a significant environmental hazard. The presence and concentration of near surface pesticides at this site can be accurately characterized only by site-specific sampling and testing.

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

Based on CEQA Guidelines Appendix G, project impacts related to hazards and hazardous materials are considered significant if any of the following occur:

- 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 0.25 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 2 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
- 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 project, as described in Chapter 3, Project Description to result in significant impacts related to hazards and hazardous materials on or within the 1-mile buffer zone of the project site. 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, a Phase I ESA has been prepared for the proposed project. The Phase I ESA is included as Appendix G of this EIR. The analysis prepared 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 project were also used to evaluate potential impacts.

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 project would not result in a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Although considered minimal, it is anticipated that the project 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 because of 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/or operations and long term maintenance, quantities in excess of 55-gallons, a hazardous material management program (HMMP) would be required. The HMMP developed for the project will include, at a minimum, procedures for:

- Hazardous materials handling, use and storage
- Emergency response
- Spill control and prevention
- Employee training
- 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 project 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.

Battery Energy Storage System

In conjunction with the construction of the solar facility, a battery energy storage system will be constructed to store the energy generated by the solar panels. Transportation of hazardous materials relating to the battery system includes electrolyte and graphite and would occur during construction, operation (if replacement of batteries is needed) and decommissioning (removal of the batteries). All of these various materials would be transported and handled in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated.

Lithium ion batteries used in the storage system contain cobalt oxide, manganese dioxide, nickel oxide, carbon, electrolyte, and polyvinylidene fluoride. Of these chemicals, only electrolyte should be considered hazardous, inflammable and could react dangerously when mixed with water. Additionally, carbon (as graphite) is flammable and could pose a fire hazard. Fire protection is achieved through project design features, such as monitoring, diagnostics and a fire suppression system. The project would be required to comply with state laws and county ordinance restrictions, which regulate and control hazardous materials handled on site.

Construction wastes would be disposed of in accordance with local, state, and federal regulations, and recycling will be used to the greatest extent possible. In this context, with adherence to requirements set forth by the ICFD, Imperial County Office of Emergency Services, DTSC, OSHA regulatory requirements and CUPA, impacts would be 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.

According to the historical records search, the project site has been developed for agricultural use since the late 1940's. 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. GS Lyon professionals have reported that concentrations of pesticides are limited and typically less than 25 percent of the current regulatory threshold limits of EPA preliminary remediation goals.

The FIFRA provides federal control of pesticide distribution, sale, and use. Pesticides used in the United States must be registered by the EPA to assure that pesticides are properly labeled and that they will not cause unreasonable harm to the environment. 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.

Hazardous Materials

The Phase I ESA prepared for the project site did not identify any RECs, USTs, or ASTs. According to the local DTSC record searches and interviews with individuals familiar with the subject property, there are no potential RECs existing on the site. Therefore, a less than significant impact is identified for this issue area.

Lead and Asbestos

According to records research and the reconnaissance survey, the potential for lead based paint residues and asbestos containing materials is very low because of the lack of site development. Therefore, a less than significant impact is identified for this issue area.

Battery Energy Storage System

Protection would be provided as part of the project design by housing the battery units in enclosed structures to provide containment should a fire break out or for potential spills. Other design features include monitoring and a fire suppression system. Lithium ion batteries present a risk of fire primarily if overcharged. The risk of fire would be reduced if overcharging is monitored and prevented through several levels of safety in the diagnostic system. A fire suppression system agreed upon by Imperial County will be installed to extinguish possible ignition. In this context, impacts would be considered less than significant for this impact area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.8-3 Hazardous Emissions or Hazardous Materials Substances, or Waste within 0.25 mile of an Existing or Proposed School.

The project would not pose a risk to nearby (within 0.25 mile) schools or proposed school facilities.

The project site is not located within 0.25 mile of any existing or proposed schools. Therefore, no significant impact has been identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.8-4 Projects Located on a Site Included on a List of Hazardous Materials Sites Compiled Pursuant to Government Code Section 65962.5.

The project is not located on a site included on a list of hazardous materials sites pursuant to Government Code Section 65962.5.

The project site is 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 2 Miles of a Public Airport or Public Use Airport.

The project is not located within an airport land use plan or within 2 miles of a public airport.

The Naval Air Facility El Centro is approximately 6.5 miles northeast of the project site. 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. The project site is located outside the influence zones of the Airport Land Use Compatibility Plan (ALUCP). Therefore, a less than significant impact has been identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.8-6 Possible Safety Hazard to the Public Residing or Working Within Proximity to a Private Airstrip.

The project is not within proximity to a private airstrip and would not create safety hazards.

There are no private airstrips located within the vicinity of the project area. No significant impact has been identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.8-7 Possible Impediment to Emergency Plans.

The project would not interfere with an adopted emergency response plan or emergency evacuation plan.

The Imperial County Draft Operational Area Emergency Operations Plan (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, State Route (SR) 111, SR 86, and SR 80. The project site is located between two major access routes: I-8 and SR 98. The project is not expected to impair the implementation of, or physically interfere with any adopted emergency response plans or emergency evacuation plans. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Therefore, a less than significant impact has been 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 site is located in an area susceptible to wildland fires.

The project site is located in the unincorporated area of Imperial County. According to the Seismic and Public Safety Element of the General Plan, the potential for a major fire in the unincorporated areas of the County is generally low. Section 4.12, Public Services, addresses the proposed project's increased need for fire protection services and project design features proposed to reduce the risk of fire. Because the proposed project is not located in proximity to an area susceptible to wildland fires, implementation of the proposed project would result in a less than significant impact related to the possible risk to people or structures caused by wildland fires.

Mitigation Measure(s)

No mitigation measures are required.

4.8.3 Decommissioning/Restoration and Residual Impacts

4.8.3.1 Decommissioning/Restoration

During decommissioning and restoration of the project site, the applicant or its successor in interest would be responsible for the removal, recycling, and/or disposal of all solar arrays, inverters, battery storage system, transformers and other structures on each of the project site. 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 facility 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 site to pre-project conditions 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 (fire protection measures), or impediment to an emergency plan (the undeveloped condition as restored, would not conflict with emergency plans).

4.8.3.2 Residual

Adherence to federal, state and local regulations will ensure that impacts related to the transportation of hazardous materials and potential fires would be reduced to levels less than significant. Based on these circumstances, the proposed project would not result in residual significant and unmitigable impacts related to hazards and hazardous materials.

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, 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.

4.9.1 Environmental Setting

The project site is located 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 project site is located within the Imperial Valley Planning Area of the Colorado River Basin. The Imperial Valley Planning Area consists of the following 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) and Amos-Ogilby (726.00). The project site is located within the Imperial HU and Brawley Hydrologic Area (California RWQCB 2017).

4.9.1.1 Regulatory Setting

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

Federal

Clean Water Act

The EPA is the lead federal agency responsible for managing water quality. The CWA of 1972 is the primary federal law that governs and authorizes the 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 project is discussed below. Wetland protection elements administered by USACE under Section 404 of the CWA, including permits for the discharge of dredged and/or fill material into waters of the U.S., are discussed in Section 4.4, Biological Resources.

Under federal law, the EPA has published water quality regulations under Volume 40 of the CFR. Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. 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 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 EPA is the federal agency with primary authority for implementing regulations adopted under the CWA. The 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, 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 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 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 RWQCBs.

Clean Water Act 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 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.

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 (FIRM) 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).

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 CWA, which regulates only surface water, the Porter-Cologne Water Quality Control Act of 1969 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.

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, the 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 California Toxics Rule satisfies CWA requirements and protects public health and the environment.

National Pollutant Discharge Elimination System 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 BMPs in an 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 1 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 post construction 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

Because of 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 project and summarizes the project's consistency with the General Plan. While this EIR analyzes the project's consistency with the General Plan pursuant to 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 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
4. Where the transition between the grading plane and adjacent ground has a slope less than the ratio of 1.5 feet on the horizontal plane to 1 foot on the vertical plane, the plans and specifications will provide for adequate safety precautions

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.

In relation to the project, 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 the guidance contained in the County's Engineering Guidelines Manual, the following drainage requirements would be applicable to the project.

III A. GENERAL REQUIREMENTS

1. All drainage design and requirements are recommended to be in accordance with the 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 (ROW), 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 3-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 site.
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 because of a 5-inch 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 SWRQCB, 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, onsite hydrology, hydraulic calculations and a hydrology map.

Table 4.9-1. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
<i>Conservation and Open Space Element</i>		
Objective 6.2: Ensure proper drainage and provide accommodation for storm runoff from urban and other developed areas in manners compatible with requirements to provide necessary agricultural drainage.	Consistent	Under proposed conditions, the existing drainage characteristics of the project site would remain substantially the same. To retain the total volume of a 3-inch precipitation covering the solar energy facility site with no reduction from infiltration, storm water retention basins would be constructed on the solar energy facility site (Figure 3-4 and Figure 3-5). Because of the implementation of infiltration, it is anticipated that the annual runoff from the project site would decrease when compared to the existing condition. Therefore, the proposed project would not 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. Therefore, the proposed project is consistent with this objective.

Table 4.9-1. Project Consistency with Applicable General Plan Policies

General Plan Policies	Consistency with General Plan	Analysis
Objective 6.3: Protect and improve water quality and quantity for all water bodies in Imperial County.	Consistent	The proposed project would protect water quality during construction through compliance with NPDES General Construction Permit, SWPPP, and BMPs. Design features and BMPs have also been identified to address water quality for the project. Water quantity would be maintained for the proposed project by retaining the majority of the project site with pervious surfaces. Although the proposed project may not improve water quality and quantity, it would protect existing conditions and satisfy County requirements. Therefore, the proposed project is consistent with this objective.
Program: 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 project does not contain a residential component nor would it place housing or other structures within a 100-year flood hazard area.
Water Element		
Program: 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 applicant of the project prepare a site-specific drainage plan and water quality management plan to minimize adverse effects to local water resources.
Program: 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.

Source: ICPDS 1993

NPDES – National Pollution Discharge Elimination System; SWPPP – stormwater pollution prevention plan

4.9.1.2 Existing Conditions

Localized Drainage Conditions

Irrigation water is supplied to the agricultural fields within and surrounding the project site by an engineered system of concrete-lined canals or earthen lateral canals operated and maintained by the IID. These canals typically contain water at all times except during maintenance periods and ultimately drain into the Salton Sea. Water generally flows from south to north through the project site.

The farm fields within the project site are graded for flood irrigation. When a field is irrigated, water is allowed to flow from the IID delivery canal to a smaller earthen or concrete-lined ditch (typically referred to as a “head ditch”), which distributes the water evenly across the field. At the opposite,

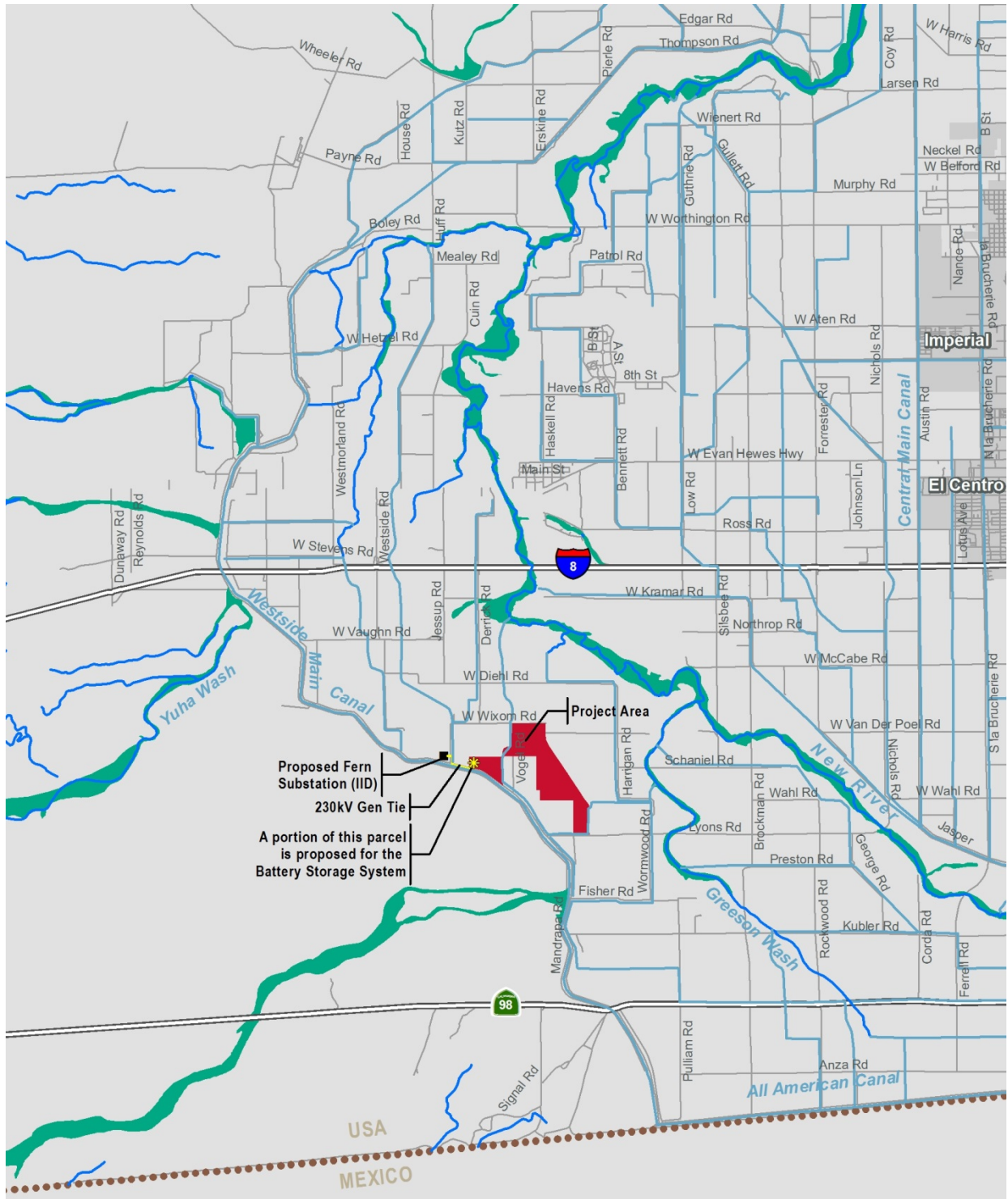
lower elevation side of the field, excess water is collected into another ditch (typically referred to as a “tail ditch”) and directed into an IID drain. The ditches present on the project site are both earthen and concrete-lined, and earthen ditches may be frequently rebuilt when the fields are plowed and disked.

Flooding

According to the FEMA FIRM (Panel 06025C2050C) and as shown on Figure 4.9-1, the project site is located outside the limits of the 100-year flood zone (Zone A). The project site is located within Zone X. 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.



Figure 4.9-1. Flood Zone



LEGEND

- Project Area
- Proposed Fern Substation (Imperial Irrigation District)
- Proposed 230kV Gen Tie
- Battery Storage System (approximate location – See Figures 3-4 and 3-5)
- Canal/Ditch
- Stream/River
- FEMA Zone A



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.

Common non-point source contaminants within the project site 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 is 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.

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 Hydrologic Area 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 (California RWQCB 2011):

- Imperial Valley Drains: Impaired for chlordane, DDT, dieldrin, endosulfan, 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
- Salton Sea: Impaired for arsenic, chlorpyrifos, DDT, enterococcus, nutrients, salinity, and selenium

Groundwater Hydrology

The project site 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 border 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.

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.

Groundwater quality varies extensively throughout the base; however, is generally unusable for domestic and irrigation purposes without treatment (DWR 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 and 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 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
- Result in inundation by seiche, tsunami, or mudflow

4.9.2.2 Methodology

The drainage design will be conducted in accordance with the County of Imperial's design criteria, which establishes that 100 percent of the 100-year storm (3 inches of rain) will be stored on site and released into the IID drainage system using existing drainage connections.

4.9.2.3 Impact Analysis

Impact 4.9-1 Violation of Water Quality Standards

The project could generate discharges to surface water resources that could potentially violate water quality standards or waste discharge requirements.

Construction

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 project 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 on 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 on 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 project 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 because of 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 on 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 NOI 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 SWPPP and Grading Plan 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.

Operation

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 facility poses a limited threat to surface water quality after the completion of construction. The project would be subject to the County's Grading Regulations as specified in Section 91010.02 of the Ordinance Code. However, since the project site is 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 project has 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 project 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 on aquatic life and damage property. For these reasons, the project 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)

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 project 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 project. 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 (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 place 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
- 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 Construction General Permit (SWRCB Order No. 2009-0009-DWQ and Associated Amendments).** If required, all construction dewatering shall be discharged or utilized for dust control in accordance with the Construction General Permit. The Storm Water Pollution Prevention Plan shall provide Best Management Practices to be implemented if groundwater is encountered during construction.
- HWQ-3 Incorporate Post-Construction Runoff BMPs into Project Drainage Plan.** The project Drainage Plan shall adhere to County and IID guidelines to control and manage the on- and off-site discharge of stormwater to existing drainage systems. Infiltration basins will be 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 management of runoff generated from project impervious surfaces as necessary.

Significance after Mitigation

With the implementation of Mitigation Measures HWQ-1 and HWQ-2, impacts on surface water quality as attributable to the project 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.

With the implementation of Mitigation Measure HWQ-3, potential water quality impacts resulting from post-construction discharges during operation for the project would be reduced to a less than significant level. With the proposed mitigation, any stormwater runoff generated from the project site 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 4.9-2 Impacts on Groundwater Recharge, Supply, and Adjacent Wells.

The project 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.

Groundwater recharge in the area will not be significantly affected because of the fact that the majority of the project site will feature a pervious landscape in both the existing and proposed conditions. Retention basins will also provide infiltration and groundwater recharge. During the construction phase, a significant amount of construction dewatering is not expected to be required. Potential construction that may require dewatering includes footings and foundations for the project substation and overhead collection system poles. Dewatering associated with these portions of construction will be localized to transmission pole locations or the substation and will not result in a significant decrease in production rates of existing or planned wells. In the post construction condition, no pumping of groundwater is anticipated.

Groundwater at/near the project site is not used for beneficial uses, such as municipal, domestic, or industrial supply. Water needs would be provided by adjacent IID Canals, and are expected to be much less than the needs of the existing agricultural land. As a result, no significant impacts on groundwater levels are expected.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.9-3 Alternation of Drainage Patterns and Substantial Erosion or Siltation

The project would not result in the alteration of existing drainage patterns thereby resulting in substantial erosion or siltation on or off site.

The proposed drainage patterns and general drainage system would be similar to the existing site conditions. Drainage from the construction zone would be routed to the detention basins for detention and infiltration. The remainder of the site would follow existing drainage patterns with storm flows conveyed toward existing IID Drains. Because of the postponement of agricultural irrigation during the life of the project, it is anticipated that the annual runoff from the project site would decrease when compared to the existing condition, which is similar to when agricultural fields are fallowed and/or abandoned. Therefore, the proposed project would result in no significant impacts associated with the alteration of drainage patterns resulting in substantial erosion or siltation on or off site.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.9-4 Alternation of Drainage Patterns and Off-site Flooding.

The project 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.

Existing drainage patterns would not be substantially altered because of the proposed project. The majority of the site would sheet flow through the pervious native soils, toward the shallow ponding areas. Peak flow runoff from the project would be collected in shallow ponding areas. The project facilities would be designed in anticipation of this ponding, and there is no potential for increased flooding onsite or in offsite IID drains. Because of the use of infiltration, it is anticipated that the annual runoff from the project site would decrease when compared to the existing condition. The project will be designed to meet County of Imperial storage requirements for storm water runoff, which will result in an impoundment of runoff in excess of the anticipated volume of runoff to be generated by the 100-year storm event. Therefore, the proposed project would result in no significant impacts associated with the alteration of drainage patterns resulting in on- or off-site flooding.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.9-5 Create or Contribute Runoff Water Exceeding the Capacity or Stormwater Drainage Systems

The project would not 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.

Under proposed conditions, the existing drainage characteristics of the project site would remain substantially the same. To retain the total volume of a 3-inch precipitation covering the solar energy facility site with no reduction from infiltration, storm water retention basins would be constructed on the solar energy facility site (Figure 3-4 and Figure 3-5). Because of the implementation of infiltration, it is anticipated that the annual runoff from the project site would decrease when compared to the existing condition. Therefore, the proposed project would not 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. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.9-6 Placement of Housing within a 100-Year Floodplain.

The project 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.

The project 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 FIRM for the project site.

There are no flood protection facilities including dam impoundments upstream of the project site. 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.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.9-7 Impede or Redirect Flood Flows.

The project would not require the placement of structures within a 100-year flood hazard area, which would impede or redirect flood flows.

The project site is contained within Zone X and outside the limits of the 100-year flood zone. The project's facilities would not be constructed within a delineated 100-year flood hazard area or floodway. As a result, the construction and operation of the project 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 4.9-8 Inundation from Flooding or Mudflows.

The project 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.

In recognition of the project site's inland location, the threat of tsunamis or seiche originating from the Salton Sea is considered negligible. As described in Section 4.6, Geology and Soils, the topography within the vicinity of project site 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

4.9.3.1 Decommissioning/Restoration

Decommissioning and restoration activities would result in similar impacts on hydrology and water quality as would occur during construction of the proposed project. The primary water quality issue associated with decommissioning/restoration would be potential impacts on 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 on 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 on other water resource issues, including alteration of drainage patterns, contributing to off-site flooding, impacts on 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.

4.9.3.2 Residual

With implementation of the mitigation measures listed above, implementation of the project 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 project, water quality impacts would be minimized to a less than significant level. Based on these circumstances, the project would not result in any residential significant and unmitigable adverse impacts on surface water hydrology and water quality.

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 site. Section 15125(d) of the CEQA Guidelines states that “[t]he EIR shall discuss any inconsistencies between the project and applicable general plans and regional plans.” This section fulfills this requirement for the project. In this context, this section reviews the land use assumptions, designations, and policies of the County General Plan and other applicable federal, state, and local requirements, which governs land use within the project area and evaluates the project’s 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

The proposed project is located approximately 9 miles southwest of the City of El Centro, California on privately owned, undeveloped agricultural land encompassing approximately 574 gross acres in southwestern Imperial County (Figure 3-1). The project site is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road (Figure 3-2). As shown on Figure 4.10-1, the project site is designated as Agriculture under the County’s General Plan. As depicted on Figure 4.10-2, the solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentle originates at the project’s substation at the southwest corner of the solar energy facility site and traverses two privately-owned legal parcels zoned A-3.

As discussed in Chapter 3, the County adopted the Renewable Energy and Transmission Element, which includes a RE Zone (RE Overlay Map). The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. As shown on Figure 3-3, the project is located outside of the RE Energy Zone. The Renewable Energy and Transmission Element is discussed in detail under Section 4.10.1.1.

4.10.1.1 Regulatory Setting

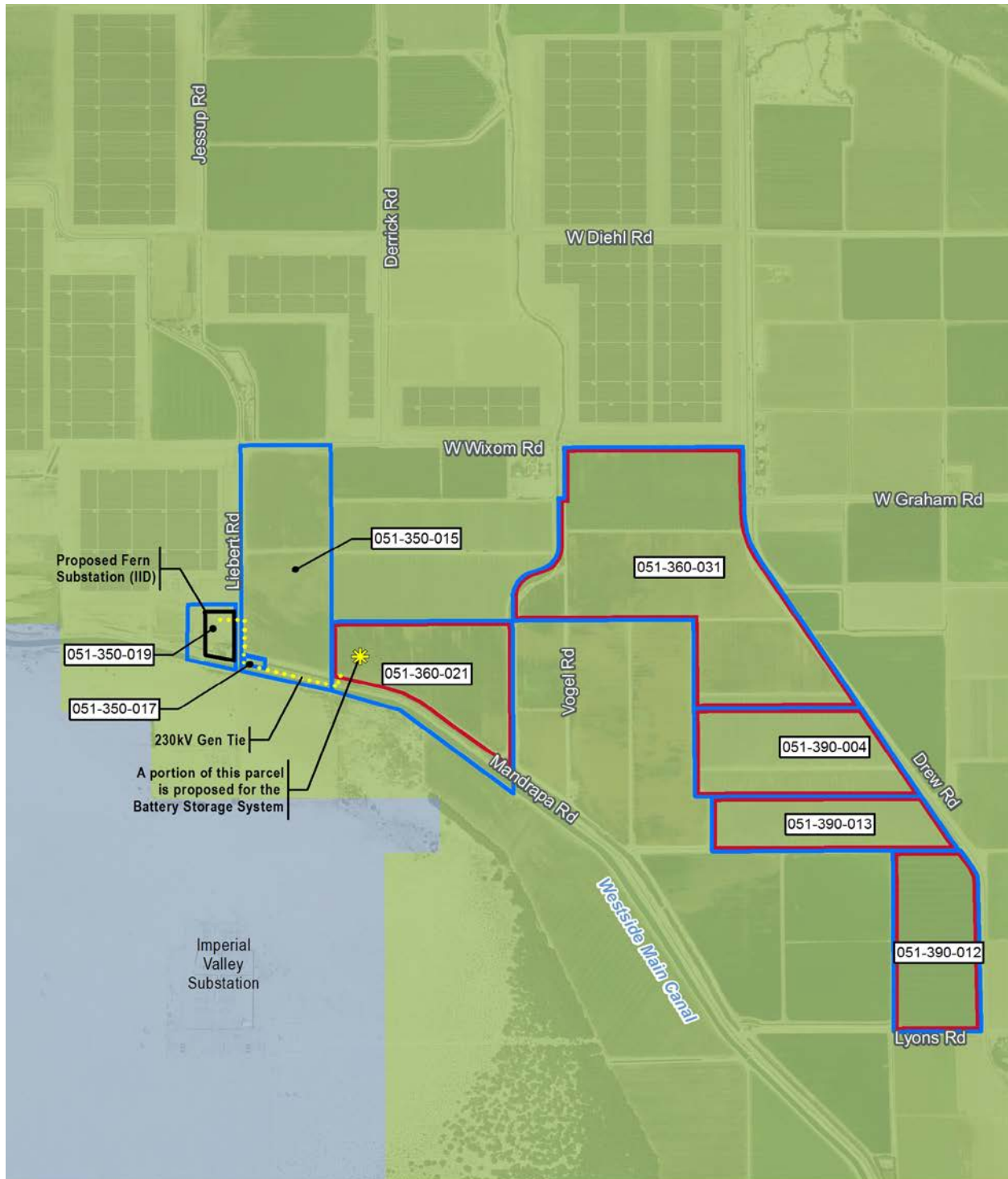
This section identifies and summarizes state and local laws, policies, and regulations that are applicable to the project.

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.

Figure 4.10-1. General Plan Land Use Designations

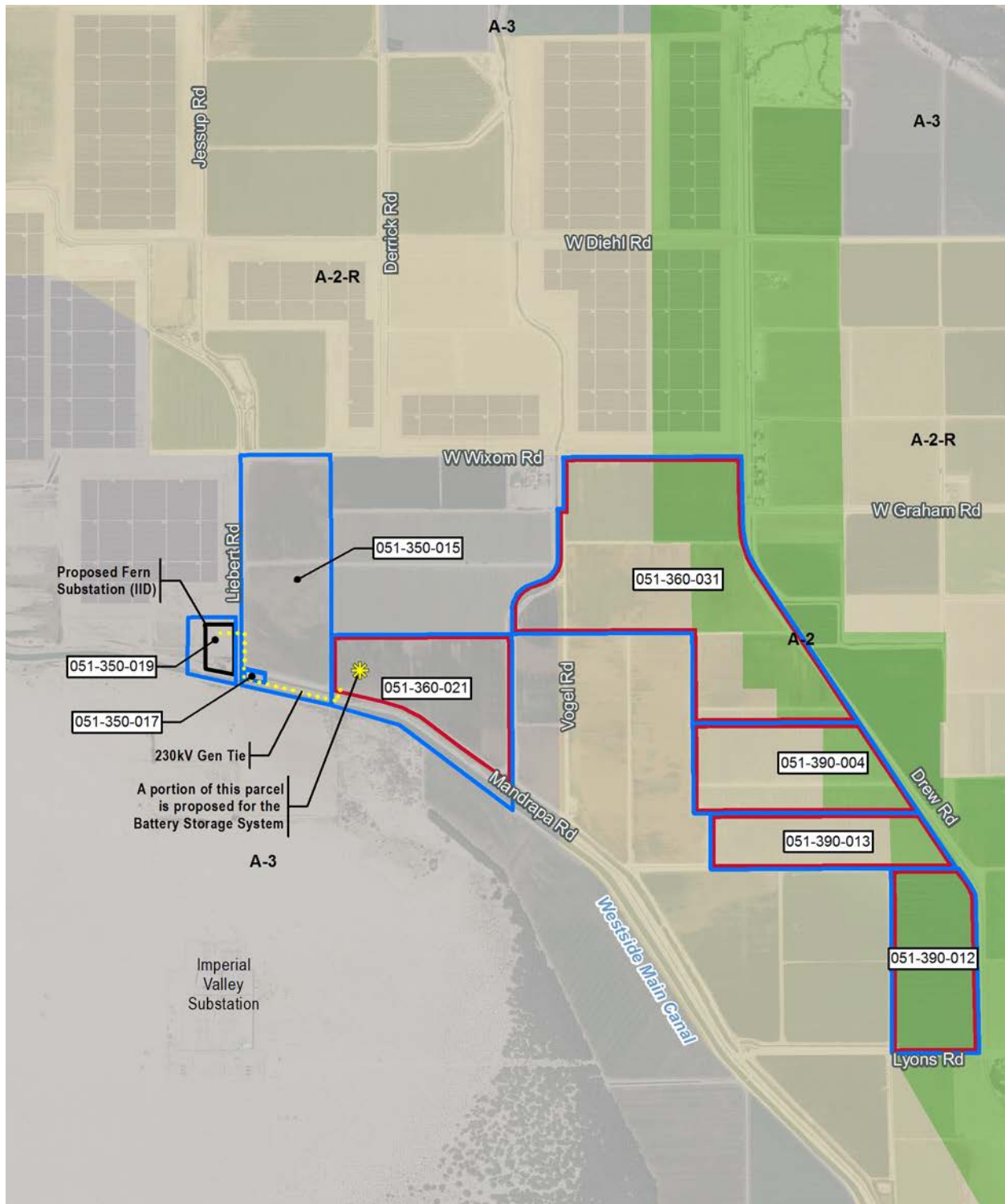


LEGEND

- Solar Energy Facility
- 230kV Gen Tie
- ★ Battery Storage System (approximate location – See Figures 3-4 and 3-5)
- Proposed Substation (Imperial Irrigation District [IID])
- General Plan
 - Agriculture
 - Recreation



Figure 4.10-2. Zoning Designations



LEGEND

- Solar Energy Facility
- Assessor Parcels
- 230kV Gen Tie
- Proposed Substation (Imperial Irrigation District [IID])
- ✱ Battery Storage System (approximate location – See Figures 3-4 and 3-5)
- Zoning A-2 (General Agriculture)
- Zoning A-2-R (General Agriculture Rural)
- Zoning A-3 (Heavy Agriculture)



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.

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.

Local

Regional Comprehensive Plan and Regional Transportation Plan

SCAG's 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 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 project 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 on the County's abundant natural, cultural, and economic resources can be avoided. The following 10 elements comprise the County's General Plan: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; Renewable Energy and Transmission Element; 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 received funding from the CEC's 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 sources and implement its Renewable Portfolio Standard. The County has recently prepared an update to the Geothermal/Alternative Energy and Transmission Element of its General Plan, called the Renewable Energy and Transmission Element. This Element is designed to provide guidance and approaches with respect to the future siting of renewable energy projects and electrical transmission lines in the County. The County adopted this element in 2016.



Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<i>Imperial County General Plan, Land Use Element</i>		
<p><i>Public Facilities, Objective 8.7.</i> 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.</p>	<p>Consistent</p>	<p>The project includes the necessary supporting infrastructure and would not require new community-based infrastructure. The project 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. Once the project is operational, water would be required for solar panel washing and fire protection. The project site is within the IID’s boundary and therefore would receive water service from the IID. Water would be purchased from the IID and delivered to the project site by water trucks. The proposed project would not require an operations and maintenance building. Therefore, no septic or other wastewater disposal systems would be required for the project.</p>
<p><i>Public Facilities, Objective 8.8.</i> Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.</p>	<p>Consistent</p>	<p>The County Land Use Ordinance, Division 17, includes the Renewable Energy Overlay Zone, which authorizes the development and operation of renewable energy projects with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone.</p> <p>The County’s General Plan and Land Use Ordinance allows that for renewable energy projects proposed on land classified in a non-RE Overlay zone, that the land on which the project is located may be included/classified in the RE Overlay Zone if the renewable energy project: 1) would be located adjacent to an existing RE Overlay Zone; 2) is not located in a sensitive area; 3) is located in proximity to renewable energy infrastructure; and, 4) and would not result in any significant environmental impacts.</p> <p>As shown on Figure 3-3, the project site is located outside of the RE Overlay Zone. Therefore, the applicant is requesting a General Plan Amendment and Zone Change to include/classify the project site into the RE Overlay Zone.</p> <p>As shown on Figure 4.10-3, the project site is located immediately adjacent to existing renewable energy infrastructure (e.g., transmission lines and other utility-scale solar projects). With the approval of the General Plan Amendment, Zone Change, and CUP, the proposed solar project can be implemented.</p>

Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<i>Public Facilities, Objective 8.9.</i> Require necessary public utility rights-of-way when appropriate.	Consistent	The project would include the dedication of necessary ROW to facilitate the placement of electrical distribution and transmission infrastructure.
<i>Protection of Environmental Resources, Objective 9.6.</i> Incorporate the strategies of the Imperial County AQAP in land use planning decisions and as amended.	Consistent	Because of 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. Section 4.3, Air Quality, discusses the project's consistency with the AQAP in more detail.
Imperial County General Plan, Circulation and Scenic Highways Element		
<i>Safe, Convenient, and Efficient Transportation System, Objective 1.1.</i> 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	Once construction is completed, the project would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. The project would include limited operational vehicle trips and would not be expected to reduce the current level of service at affected intersections, roadway segments, and highways. The project does not propose any forms for residential or commercial development and therefore would not require new forms of alternative transportation to minimize impacts on existing roadways.
<i>Safe, Convenient, and Efficient Transportation System, Objective 1.2.</i> Require a traffic analysis for any new development which may have a significant impact on County roads.	Consistent	As described in Section 4.13, Transportation and Traffic, a traffic study was prepared for the project and demonstrated that project operations would have a less than significant impact on the circulation network.
Imperial County General Plan, Noise Element		
<i>Noise Environment. Objective 1.3.</i> Control noise levels at the source where feasible.	Consistent	Where construction-related and operational noise would occur in close proximity to noise sensitive land uses (e.g. less than 500 feet), the County would condition the project to maintain conformance with County noise standards.
<i>Project/Land Use Planning. Goal 2:</i> 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 project would be required to comply with the County's noise standards during both construction and operation.
<i>Long Range Planning. Goal 3:</i> 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 project would result in less than significant noise impacts.



Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<i>Imperial County General Plan, Conservation and Open Space Element</i>		
<p><i>Conservation of Environmental Resources for Future Generations Objective 1.5:</i> Provide for the most beneficial use of land based upon recognition of natural constraints.</p>	Consistent	<p>The project site would be converted from undeveloped agricultural land to a solar energy facility. The proposed project 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 Renewable 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 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 that do not threaten the economic viability of other industries; 5) Improvements in technology to reduce costs of electrical generation; 6) Reduction in potential greenhouse gases by displacing fossil-fuel-generated electricity with renewable energy power which does not add to the greenhouse effect; 7) Contribution towards meeting the State of California's RPS; and, 8) Minimization of impacts on local communities, agriculture and sensitive environmental resources.</p> <p>In addition, the generation of 100 MW of renewable electrical energy is a benefit that would otherwise be generated by nonrenewable fossil fuels. Therefore, the proposed project is consistent with this objective.</p>
<p><i>Preservation of Biological Resources. Goal 2:</i> The County will preserve the integrity, function, productivity, and long-term viability of environmentally sensitive habitats, and plant and animal species.</p>	Consistent	<p>A biological resources survey was conducted for the project site. As discussed in Section 4.4, Biological Resources, there are potentially sensitive biological resources located within the project site. However, with the implementation of mitigation identified in Section 4.4, Biological Resources, these impacts would be reduced to a level less than significant.</p>
<p><i>Preservation of Cultural Resources. Objective 3.1</i> Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.</p>	Consistent	<p>A cultural resource inventory was prepared for the project site. As discussed in Section 4.5, Cultural Resources, the proposed project has the potential to encounter undocumented archaeological resources, paleontological resources, and human remains. Mitigation Measures CR-1 through CR-4 have been identified to reduce potential impacts on a level less than significant.</p>

Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<p><i>Preservation of Agricultural Lands. Goal 4:</i> 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.</p>	<p>Consistent</p>	<p>The project would temporarily convert land designated as Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. Although the project would convert lands currently under agricultural production, the project applicant is required to prepare a site-specific Reclamation Plan to minimize impacts related to short- and long-term conversion of farmland to non-agricultural use. The reclamation plan includes the removal, recycling, and/or disposal of all solar arrays, inverters, battery storage system, transformers and other structures on the site, as well as restoration of the site to its pre-project condition. Therefore, the proposed project would not permanently convert Prime Farmland or Farmland of Statewide Importance to non-agricultural uses.</p>
<p><i>Conservation of Energy Sources. Goal 6:</i> The County shall seek to achieve maximum conservation practices and maximum development of renewable alternative sources of energy.</p>	<p>Consistent</p>	<p>The project entails the construction and operation of a solar energy facility, which is considered an alternative source of energy.</p>
<p><i>Conservation of Energy Sources. Objective 6.2:</i> Encourage the utilization of alternative passive and renewable energy resources.</p>	<p>Consistent</p>	<p>The project entails the construction and operation of a solar energy facility, which is considered an alternative source of energy. With implementation of the project, a new source of solar energy would be identified.</p>
<p><i>Conservation of Energy Sources. Objective 6.6:</i> Encourage compatibility with National and State energy goals and city and community general plans.</p>	<p>Consistent</p>	<p>The project is 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 procure 50 percent of their electricity from eligible renewable energy resources by 2030. The project would contribute toward this goal.</p>
<p><i>Imperial County General Plan, Renewable Energy and Transmission Element</i></p>		
<p><i>Objective 1.5:</i> Require appropriate mitigation and monitoring for environmental issues associated with developing renewable energy facilities.</p>	<p>Consistent</p>	<p>Please refer to Section 4.2, Agricultural Resources, for a description of existing agricultural resources within the project site and a discussion of potential impacts attributable to the project. A biological resources report has been prepared for the project, which is summarized in Section 4.4, Biological Resources, along with potential impacts attributable to the project. With incorporation of mitigation identified in Sections 4.2, Agricultural Resources and 4.4, Biological Resources, less than significant impacts would result.</p>



Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<i>Objective 1.7:</i> Assure that development of renewable energy facilities and transmission lines comply with Imperial County Air Pollution Control District's regulations and mitigation measures.	Consistent	Because of 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. Section 4.3, Air Quality, discusses the project's consistency with the ICAPCD in more detail.
<i>Objective 2.1:</i> 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 project involves the construction and operation of new renewable energy infrastructure that would interconnect with existing and approved IID transmission infrastructure thereby maximizing the use of existing facilities.
<i>Imperial County Land Use Compatibility Plan</i>		
<i>Safety Objective 2.1:</i> 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 site is not located within a designated ALUCP area.
<i>Southern California Area of Governments Regional Comprehensive Plan and Regional Transportation Plan</i>		
<i>Objective 3.05:</i> Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.	Consistent	The project involves the construction and operation of new renewable energy infrastructure that would interconnect with existing and approved IID transmission infrastructure thereby maximizing the use of existing facilities. The project would not involve new forms of urban development that could increase demands for existing infrastructure.
<i>Objective 3.14:</i> 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 project does not propose an increase in urban densities along regional commuter rail, transit systems, and activity centers and is not in proximity to these areas.
<i>Objective 3.16:</i> Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.	Consistent	The project is 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.
<i>Objective 3.17:</i> Support and encourage settlement patterns which contain a range of urban densities.	Consistent	The project would not increase urban densities because the project consists of new renewable energy infrastructure and not residential or commercial development.

Table 4.10-1. Project Consistency with Applicable Plan Policies

Applicable Policies	Consistency Determination	Analysis
<i>Objective 3.18:</i> Encourage planned development in locations least likely to cause adverse environmental impact.	Consistent	The project is not characterized as “Planned Development” and is appropriately located to minimize adverse impacts on sensitive land uses and takes advantage of anticipated utility infrastructure needs.
<i>RTP G6:</i> 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.
<i>GV P1.1:</i> Encourage transportation investments and land use decisions that are mutually supportive.	Consistent	See discussion under Policy 3.16 above.
<i>GV P4.2:</i> Focus development in urban centers and existing cities.	Consistent	The project consists of new renewable energy infrastructure and does not include residential or commercial forms of development that should otherwise be directed toward urban centers or existing cities.
<i>GV P4.3:</i> Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.	Consistent	See discussion under Policy 3.16 above.

Source: ICPDS 1993, SCAG 2008a, 2008b

ALUCP = Airport Land Use Compatibility Plan =; AQAP = air quality attainment plan; CUP = conditional use permit; EIR = environmental impact report; GV = growth visioning; ICAPCD = Imperial County Air Pollution Control District; IID = Imperial Irrigation District; MW = megawatt; RE = renewable energy; ROW = right-of-way; RPS = Renewables Portfolio Standard; RTP = Regional Transportation Plan

The RE and Transmission Element includes a RE Overlay Map. The County Land Use Ordinance, Division 17, includes the RE Overlay Zone, which authorizes the development and operation of renewable energy projects, with an approved CUP. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. As shown on Figure 3-3, the project site is located outside of the RE Overlay Zone.

As previously indicated, the County’s General Plan designates the project site 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 project’s consistency with the General Plan goals and objectives relevant to the project is provided in Table 4.10-1. 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



Resources, of this EIR. While this EIR analyzes the project's consistency with the General Plan pursuant to 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.

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 on Figure 4.10-2, the solar energy facility site is zoned A-2, A-2R, and A-3. The proposed gentle traverses two privately-owned legal parcels zoned A-3. The purpose of the A-2 and A-2R zoning designations is to designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses. The purpose of the A-3 zoning designation is to designate areas that are suitable for agricultural land uses; to prevent the encroachment of incompatible uses onto and within agricultural lands; and to prohibit the premature conversion of such lands to non-agricultural uses. Uses in the A-2, A-2R, and A-3 zoning designations are limited primarily to agricultural-related uses and agricultural activities that are compatible with agricultural uses.

Sections 90508.02 and 90509.02 of the Land Use Ordinance identify the permitted and conditional uses within the A-2, A-2-R, and A-3 zoning designations. Uses identified as conditionally permitted require a CUP, which is subject to the discretionary approval of the County Board of Supervisors (Board) per a recommendation by the County Planning Commission. The project includes several uses identified as conditionally permitted within the A-2, A-2-R, and A-3 zones. These uses include electrical substations in an electrical transmission system (500 kV/230 kV/161 kV); facilities for the transmission of electrical energy (100 to 200 kV); solar energy electrical generators; solar energy plants; transmission lines, including supporting towers, poles microwave towers, utility substations. Sections 90508.07 and 90509.07 of the Land Use Ordinance limit the height of all non-residential structures within the A-2, A-2-R, and A-3 zones to 120 feet. Specifically, Sections 90508.07 (C) and 90509.07 (C) state, "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 Imperial County ALUCP provides the criteria and policies used by the Imperial County Airport Land Use Commission to assess compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding the airports. The ALUCP emphasizes review of local general and specific plans, zoning ordinances, and other land use documents covering broad geographic areas.

The project site is located approximately 5 miles south of the Naval Air Facility (NAF) El Centro. According to Figure 3G (Compatibility Map – Naval Air Facility El Centro) of the ALUCP, no portion

of the project site is located within the NAF El Centro land use compatibility zones (County of Imperial 1996).

4.10.1.2 Existing Conditions

The proposed project is located on privately owned, undeveloped agricultural land encompassing approximately 574 gross acres. The project site is generally located east of the Westside Main Canal, south of West Wixom Road, west of Drew Road, and north of Lyons Road. As shown on Figure 4.10-1, the project site is designated as Agriculture under the County's General Plan. As depicted on Figure 4.10-2, the project site is zoned A-2, A-2R, and A-3.

The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. The project is generally located east of the Westside Main Canal. The existing Imperial Valley Substation is located approximately 1 mile southwest of the project site. There are no established residential neighborhoods immediately adjacent to the project site. As shown on Figure 4.3-1, there are rural residences located adjacent to the boundary of the solar energy facility site: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection), and four residences along Drew Road.

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
- Conflict with any applicable HCP or natural community conservation plan

4.10.2.2 Methodology

This analysis evaluates the project's 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 project was reviewed relative to the land-use assumptions, policies, and designations of the Imperial County General Plan and applicable land-use plans, policies, and regulations.
- The project was 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. The conceptual site plan for the project (Figures 3-4 and 3-5) was also used to evaluate potential impacts.

4.10.2.3 Impact Analysis

Impact 4.10-1 *Physically Divide an Established Community.*

The project would not physically divide an established community.

The project site is located in a sparsely populated, agriculturally zoned portion of southern Imperial County. The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. Although there are a few scattered rural residences located adjacent to the boundary of the solar energy facility site (Figure 4.3-1), there are no established residential communities located within or in the vicinity of the project site. Implementation of the proposed project would not divide an established community and no significant impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.10-2 *Conflict with Applicable Land Use Plan, Policies, or Regulations.*

The project could conflict with an applicable land-use plan, policy, or regulation of an agency with jurisdiction over the project (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.

Regional Comprehensive Plan and Regional Transportation Plan

According to the SCAG Intergovernmental Review Procedures Handbook, “new or expanded electrical generating facilities and transmission lines” qualify as regionally significant projects. Therefore, Table 4.10-1 provides a consistency evaluation for the project with applicable SCAG IGR policies. As shown in Table 4.10-1, the proposed project is consistent with the SCAG IGR policies.

County of Imperial General

The County’s General Plan applies to the solar energy facility, battery storage system, gen-tie, and supporting infrastructure associated with the project. An analysis of the project’s consistency with the General Plan goals and objectives relevant to the project is provided in Table 4.10-1. As shown in Table 4.10-1, the proposed project would be generally consistent with the goals and objectives of the General Plan, with the exception of the RE and Transmission Element.

The County adopted the RE and Transmission Element, which includes a RE Energy Zone. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established uses. As stated in the Renewable Energy and Transmission Element:

CUP applications proposed for specific renewable energy projects not located in the RE Overlay Zone would not be allowed without an amendment to the RE Overlay Zone. An amendment to the overlay zone would only be approved by the County Board of Supervisors if a future renewable energy project met one of the following two conditions:

- Adjacent to the Existing RE Overlay Zone: An amendment may be made to allow for development of a future renewable energy project located adjacent to the existing RE Overlay Zone if the project:
 - Is not located in a sensitive area
 - Would not result in any significant impacts
- “Island Overlay”: An amendment may be made to allow for development of a future renewable energy project that is not located adjacent to the existing RE Overlay Zone if the project:
 - Is located adjacent (sharing a common boundary) to an existing transmission source
 - Consists of the expansion of an existing renewable energy operation
 - Would not result in any significant environmental impacts.

The project site is located outside of the RE Overlay Zone. Therefore, the applicant is requesting an amendment to the County’s General Plan, RE and Transmission Element to include/classify the project site into the RE Overlay Zone. The project site is not located adjacent to an existing RE Overlay Zone; therefore, the project will need to meet the criteria identified for the “Island Overlay” to obtain approval of an amendment to the RE Overlay Zone. Table 4.10-2 provides an analysis of the project’s consistency with the “Island Overlay” criteria.

With approval of the General Plan Amendment and Zone Change, the project applicant will be able to request for approval of a CUP to allow the construction and operation of the proposed solar facility.

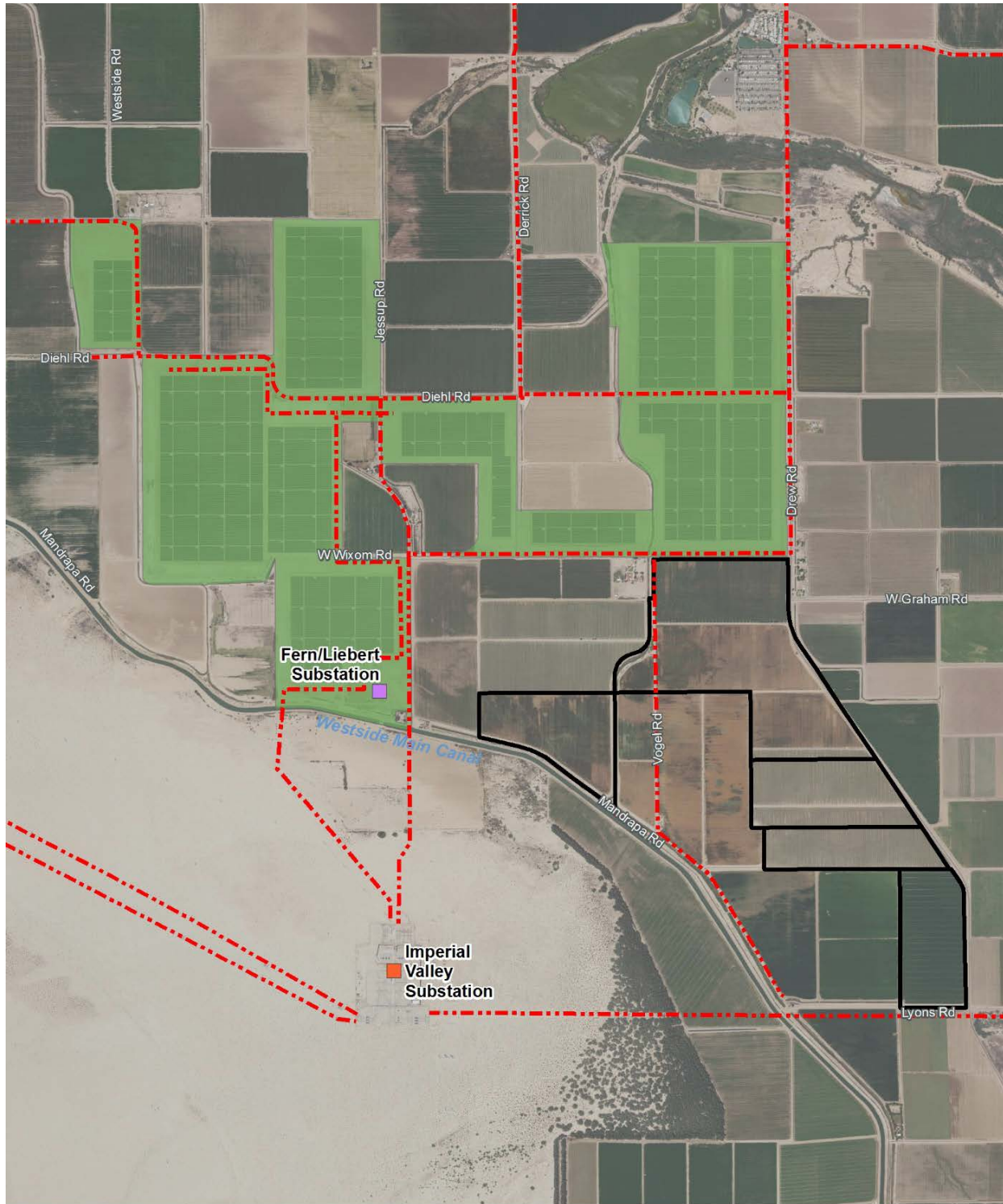


Table 4.10-2. Project Consistency with “Island Overlay” Criteria

Criteria	Criteria Met?
Is located adjacent (sharing a common boundary) to an existing transmission source?	As shown on Figure 4.10-3, there are numerous transmission lines in the project vicinity. The project site is located immediately adjacent to existing transmission lines. As described in Chapter 3, the project includes a gen-tie line that would connect to the Fern Substation.
Consists of the expansion of an existing renewable energy operation?	As shown on Figure 4.10-3, the project site is located adjacent to the Campo Verde Solar Project, which is an existing RE facility. The Campo Verde solar facility began commercial operation in November 2013 and is capable of generating up to 139 MW of solar energy. The proposed projects involve the construction of four utility-scale solar facilities immediately adjacent to the existing Campo Verde solar facility. The proposed project would be capable of generating up to 100 MW of solar energy, thereby expanding solar energy generation in the area.
Would not result in any significant environmental impacts?	As detailed in Sections 4.1 through 4.14 of this EIR, no unavoidable or unmitigable 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. Therefore, the proposed project would not result in a residual significant impact.

EIR = environmental impact report; MW = megawatt; RE = renewable energy

Figure 4.10-3. Proximity to Existing Renewable Energy Operation and Transmission Source



LEGEND

-  Solar Energy Facility
-  Existing Transmission Line
-  Campo Verde
-  Fern/Liebert Substation
-  Imperial Valley Substation





County of Imperial Land Use Ordinance

Development of the solar energy facility, battery storage system, and gentie is subject to the County's zoning ordinance. The solar energy facility is located on five privately-owned legal parcels zoned A-2, A-2R, and A-3. The battery storage system is located on a privately-owned legal parcel zoned A-3. The proposed gentie traverses two privately-owned legal parcels zoned A-3. Pursuant to Title 9, Division 5, Chapter 8, the following uses are permitted in the A-2 and A-2R zones subject to approval of a CUP from Imperial County: 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. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" and "Transmission lines, including supporting towers, poles microwave towers, utility substations" are uses that are permitted in the A-3 Zone, subject to approval of a CUP. Therefore, with approval of a CUP, the proposed project would not conflict with the County's zoning ordinance.

Imperial County Airport Land Use Compatibility Plan

As previously discussed above, the project site is located approximately 5 miles south of the NAF EI Centro. According to Figure 3G (Compatibility Map – Naval Air Facility EI Centro) of the ALUCP, no portion of the project site is located within the NAF EI Centro land use compatibility zones (County of Imperial 1996). Therefore, the proposed project would not conflict with the Imperial County ALUCP and no significant impact would occur.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.10-3 Conflict with an Adopted Habitat Conservation Plan (HCP) or Natural Communities Conservation Plan (NCCP).

The project would not conflict with any applicable HCP or NCCP.

The project site is not located within the boundaries of any adopted HCP (16 USC §1539) or NCCP (California 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 facility and supporting infrastructure would not conflict with any HCP or NCCP and would result in no significant impact.

Mitigation Measure(s)

No mitigation measures are required.

4.10.3 Decommissioning/Restoration and Residual Impacts

4.10.3.1 Decommissioning/Restoration

No impacts on land use and planning are anticipated to occur during decommissioning and restoration of the project site. Decommissioning and restoration would not physically divide an established community or conflict with any applicable land use or HCP. Through the project's decommissioning and subsequent restoration to pre-project conditions, the uses of the project site (agricultural) would remain consistent with the General Plan and zoning designations of the site, which allow agricultural uses. Therefore, no impact is identified and no mitigation is required.

4.10.3.2 Residual

With mitigation as prescribed in other sections of this EIR, issues related to the conversion of Important Farmland to non-agricultural use would be mitigated and reduced to a less than significant level. Similarly, with the approval of a CUP and reclamation plan to address post-project decommissioning, the project would generally be consistent with applicable federal, state, regional, and local plans and policies. Likewise, the project would not conflict with the provisions of an adopted HCP or NCCP. Based on these circumstances, the project would not result in any residual significant and unmitigable land use impacts.



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, 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 residual 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 CEQA Guidelines.

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 0 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 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 because of 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 1 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-weighted 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
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 dBA 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
- 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 dB system. The human ear perceives sound in a nonlinear fashion hence the dB scale was developed. Because the dB 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 by an agricultural landscape and some solar development in adjacent areas, however, these areas have very little hard surfaces. Therefore, soft surfaces are generally present throughout.

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 project.

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 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 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 (CCR, 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 EIR analyzes the projects' consistency with the General Plan pursuant to 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 $L_{eq}(1)$.



Table 4.11-1. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure – L _{dn} or CNEL (dBA)							
	50	55	60	65	70	75	80	
Residential	█	█	█	█				
			█	█	█	█		
						█	█	
								█
Transient Lodging – Motel, Hotel	█	█	█	█	█			
			█	█	█	█	█	
							█	█
Schools, Libraries, Churches, Hospitals, Nursing Homes	█	█	█	█				
			█	█	█	█		
						█	█	█
								█
Auditorium, Concert Hall, Amphitheaters								
	█	█	█	█	█	█	█	
						█	█	█
Sports Arena, Outdoor Spectator Sports								
	█	█	█	█	█	█	█	
							█	█
Playgrounds, Neighborhood Parks	█	█	█	█	█			
						█	█	
								█
								█

Table 4.11-1. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure – L _{dn} or CNEL (dBA)							
	50	55	60	65	70	75	80	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Office Buildings, Business, Commercial and Professional	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Industrial, Manufacturing, Utilities, Agriculture	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
Blue	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.						
Green	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.						
Yellow	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.						
Red	Clearly Unacceptable	New construction or development generally should not be undertaken.						

Source: ICPDS 1993



Table 4.11-2. Project Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
<p><i>1. Acoustical Analysis of proposed projects.</i> 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.</p>	<p>Consistent</p>	<p>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 project is 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.</p> <p>This EIR provides an analysis of the potential short- and long-term noise impacts of the project. As discussed, short-term and long-term noise levels were found to be less than significant.</p>
<p><i>2. Noise/Land Use Compatibility.</i> 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.</p>	<p>Consistent</p>	<p>Noise levels associated with project operations are unlikely to exceed noise limits for the A-2, A-2R, and A-3 zones. See Section 4.11.1.2 for additional discussion.</p>
<p><i>4. Interior Noise Environment.</i> 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.</p>	<p>Consistent</p>	<p>This EIR provides an analysis of the potential short- and long-term noise impacts of the project. As discussed, short-term and long-term noise levels were found to be less than significant.</p> <p>Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2, A-2R, and A-3 zones.</p>
<p><i>5. New Noise Generating projects.</i> 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.</p>	<p>Consistent</p>	<p>This EIR provides an analysis of the potential short- and long-term noise impacts of the project. As discussed, short-term and long-term noise levels were found to be less than significant.</p> <p>Noise levels associated with project operations would be unlikely to exceed noise limits for the A-2, A-2R, and A-3 zones.</p>

Table 4.11-2. Project Consistency with Applicable General Plan Noise Policies

General Plan Policies	Consistency with General Plan	Analysis
<p>6. <i>Projects Which Generate Off-site Traffic Noise.</i> 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 on sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact on a level less than significant.</p>	<p>Consistent</p>	<p>As described in Chapter 3, the project 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.</p>

Source: ICPDS 1993

dBA = A-weighted decibel; EIR – environmental impact report

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
- 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 1-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 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).

Table 4.11-3. Imperial County Exterior Noise Standards

Land Use Zone	Time Period	Noise Level, L_{eq} 1-hour (dBA)
R-1 Residential	Night (10 p.m. to 7 a.m.)	45
	Day (7 a.m. to 10 p.m.)	50
R-2 Residential	Night (10 p.m. to 7 a.m.)	50
	Day (7 a.m. to 10 p.m.)	55
R-3, R-4, & all other residential	Night (10 p.m. to 7 a.m.)	50
	Day (7 a.m. to 10 p.m.)	55
Commercial	Night (10 p.m. to 7 a.m.)	55
	Day (7 a.m. to 10 p.m.)	60
Manufacturing, other industrial, agricultural, and extraction industry	Anytime	70
Industrial	Anytime	75

dBA = A-weighted decibel; L_{eq} = equivalent sound level

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 site is designated as Agriculture under the County’s General Plan. As depicted on Figure 4.10-1, the solar energy facility site is located on a total of five privately-owned legal parcels zoned A-2 (General Agriculture), A-2R (General Agricultural Rural), and A-3 (Heavy Agriculture). The proposed gentie originates at the project’s substation at the southwest corner of the solar energy facility site and traverses two privately-owned legal parcels zoned A-3.

The project site is surrounded by the Campo Verde solar generating facility on the north and northwest, undeveloped agricultural lands on the east and south, and desert lands on the west. The project is generally located east of the Westside Main Canal. The existing Imperial Valley Substation is located approximately 1 mile southwest of the project site.

The predominant sources of noise in the project area includes vehicular traffic on local roads and highways and agricultural operations. Activities involving the use of heavy-duty equipment, such as frontend loaders, forklifts, and diesel-powered trucks, are common noise sources typically associated with agricultural uses. Noise typically associated with agricultural operations, including

the use of heavy-duty equipment, can reach maximum levels of approximately 85 dBA at 50 feet (Caltrans 1998). With the soft surfaces characterizing the agricultural landscape, these noise levels attenuate to ~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 roadways including Drew Road, Westside Road, and I-8
- Agricultural operations throughout the project area including the operation of heavy equipment and vehicles

Based on the availability of a previously prepared noise study in conjunction with the approved Campo Verde Solar Project (State Clearinghouse [SCH] No. 2011111049), the proximity of the measurements, and timing in which the data was collected (2011), 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 measurements were used to characterize ambient noise conditions for the project sites.

Noise measurements were taken at two monitoring locations at the Campo Verde Solar Project site. Monitoring location 1 was located roughly 30 feet from Westside Road near the intersection of West Vaughn Road. Monitoring location 2 was taken in the eastern portion of the site approximately 30 feet from Drew Road at the intersection of West Diehl Road. The noise measurements were monitored for a time period of 15 minutes each. According to the Campo Verde Solar Project Final EIR (SCH No. 2011111049), the ambient Leq noise levels measured in the area of the project during the late morning and mid-day were found to be between 50-55 dBA Leq on the western portion of the site and 90 percent (L90) the noise levels were 36-38 dBA. The existing noise levels in the project area consisted primarily of low traffic volumes along Drew Road and Westside Road and background noise from existing agricultural operations in the distances both on and adjacent to the site. The existing noise levels were found to be below County thresholds for all sensitive land uses.

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. There are no established residential neighborhoods immediately adjacent to the project site. As shown on Figure 4.3-1 (Section 4.3, Air Quality), there are off-site rural residences located 500 feet of the solar energy facility site boundary: one located near the northwestern property boundary (Vogel Road/West Wixom Road intersection) and four residences along Drew Road.

Groundborne Vibration

Groundborne vibration consists of rapidly fluctuating motions or waves, which are also measured in dB. 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 2013 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 2013). 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. California Department of Transportation Vibration Damage Potential Threshold Criteria

Structure and Condition	Maximum PPV (inch/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: Caltrans 2013

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity

Proximity to Airports

The project site is not located within 2 miles of a public airport or a private airstrip. The nearest airport is the Naval Air Facility El Centro located approximately 6.5 miles northeast of the project site.

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 are considered significant if any of the following occur:

- 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 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels
- 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

Noise generated by the proposed project will consist of: (1) short duration noise resulting from construction activities and (2) noise during normal facility operations. Vibration from the proposed project would only result during construction. Construction activities would take place only during daytime hours. An evaluation was performed of expected noise and vibration and compared to regulatory requirements.

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 project would not expose persons to or generate noise levels in excess of applicable County standards.

Construction noise, although temporary, can potentially affect nearby sensitive receptors, such as residences. Construction of the proposed project will require the use of heavy equipment that may be periodically audible at offsite locations. Received noise levels will fluctuate, depending on the

construction activity, equipment type, and distance between noise source and receiver. Additionally, noise from construction equipment will vary dependent on the construction phase and the number and type of equipment at a location at any given time. Construction for the project is expected to conservatively last 11 months. The construction activities for the project generally fall into three main phases: (1) Site Preparation; (2) System Installation; and (3) Facility Commissioning.

The nearest sensitive receptor to the project site is a residence located approximately 250 feet east of the project site on Drew Road. However, because of the large size of the project site, over an 8-hour period the average distance from the construction activities on the project site to this sensitive land use is approximately 500 feet. Construction noise would attenuate with increased distance from the noise sources.

Construction is performed in discrete steps, each of which has its own mix of equipment, and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 4.11-5 lists maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery, such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed project is expected to require the use of earthmovers, bulldozers, loaders, cranes, forklifts, pile drivers, water trucks, and pickup trucks. This equipment would be used on the project site. Based on Table 4.11-5, the maximum noise level generated by each earthmover on the project site is assumed to be 88 dBA L_{max} at 50 feet from the earthmover. Each bulldozer would also generate 88 dBA L_{max} at 50 feet. The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. While full sized pile drivers can generate noise levels in excess of 96 dBA L_{max} , the post driver required for the solar panel mounts would generate noise levels of 85 to 88 dBA L_{max} . Each doubling of a sound source with equal strength increases the noise level by 3 dBA. As each piece of construction equipment operates as an independent noise source, the combined noise level during construction would be 91 dBA L_{max} at a distance of 50 feet. The proposed project would include construction activities within 250 feet of the existing residence located approximately 250 feet east of the project site on Drew Road. Distance attenuation would reduce the construction noise by 14 dBA to 77 dBA L_{max} .

The variation in power and usage of the various equipment types creates complexity in characterizing construction noise levels. 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 (i.e., front end loaders are assumed to be used for up to 40 percent of 1 hour, or 24 minutes), to calculate the composite average daytime hourly L_{eq} . Using a conservative load factor of 40 percent for all on-site equipment, the average noise level at the existing residence would be 73 dBA L_{eq} . This noise level would not exceed the County's 75 dBA L_{eq} construction noise threshold. Furthermore, the project

must comply with County standards regarding construction hours (i.e., construction limited to normal weekday working hours, 7 a.m. to 7 p.m., Monday through Friday). Therefore, impacts from construction noise are considered less than significant.

Traffic noise associated with construction of the proposed project is not anticipated to be a significant source of noise. Traffic noise is not greatly influenced by lower levels of traffic, such as those associated with the proposed project's construction effort. For example, traffic levels would have to double in order for traffic noise on area roadways to increase by 3 dBA. The proposed project's construction traffic on area roadways would increase hourly traffic volumes by much less than double; therefore, the increase in construction related traffic noise would be less than 3 dBA and is not significant.

Table 4.11-5. Typical Maximum Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Pile Drivers, 12,000 to 18,000 feet-pound/blow	81 – 96	93
Rock Drills	83 – 99	96
Jack hammers	75 – 85	82
Pneumatic Tools	78 – 88	85
Pumps	74 – 84	80
Dozers	77 – 90	85
Scrapers	83 – 91	87
Haul Trucks	83 – 94	88
Cranes	79 – 86	82
Portable Generators	71 – 87	80
Rollers	75 – 82	80
Tractors	77 – 82	80
Front-End Loaders	77 – 90	86
Hydraulic Backhoe	81 – 90	86
Hydraulic Excavators	81 – 90	86
Graders	79 – 89	86

Table 4.11-5. Typical Maximum Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 feet)
Air Compressors	76 – 89	86
Trucks	81 – 87	86

Source: Bolt, Beranek, and Newman 1987

dBA – a-weighted decibel

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.11-2 Exposure to and/or Generation of Groundborne Vibration.

The project would not expose persons to or generate excessive groundborne vibration or groundborne noise levels.

Vibration associated with construction of the proposed project has the potential to be an annoyance to nearby land uses.

The County does not have adopted limits for determining significance of vibration impacts on structures or persons. Caltrans and the Federal Transit Administration (FTA) have developed two of the decisive works in the assessment of vibrations from transportation and construction sources (Caltrans 2013; FTA 2006). The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources.

The Caltrans *Transportation and Construction Vibration Guidance Manual* identifies two impact criteria for buildings and humans. Table 4.11-4 describes impact criteria for buildings, and Table 4.11-6 describes impact criteria for humans.

Table 4.11-6. California Department of Transportation Guideline Vibration Annoyance Potential

Human Response	Maximum PPV (inch/second)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans 2013

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity

Construction of the proposed project may require post driving and vibratory rollers and has the potential to result in temporary vibration impacts on structures and humans. Based on the potential site locations, post driving activities would not occur closer than 250 feet from the nearest off-site structures. As impact pile drivers have higher vibration levels than vibratory pile drivers, the potential vibration impact calculations assume that impact pile drivers will be used. Other construction activities are less intensive than pile driving and would have lower PPV than pile driving. Therefore, vibration levels from pile driving are considered worst case for the project construction. Caltrans vibration guidance provides the following equation to calculate PPV at sensitive receptors:

$$PPV_{\text{Impact Pile Driver}} = PPV_{\text{Ref}} (25/D)^n \times (E_{\text{equip}}/E_{\text{Ref}})^{0.5} \text{ (in/sec)}$$

Where:

$PPV_{\text{Ref}} = 0.65$ in/sec for a reference pile driver at 25 feet

D = distance from pile driver to the receiver in feet

n = 1.1 is a value related to the vibration attenuation rate through ground

E_{equip} is rated energy of impact pile driver in ft-lbs

E_{Ref} is 36,000 ft-lb (rated energy of reference pile driver)

Using the referenced formula and an assumed 2,400 ft-lb rated energy for the post driver, the calculated PPV at the nearest structure (250 feet) would be 0.013 PPV, which according to the Caltrans guidance would not damage buildings and would be barely perceptible. Therefore, vibration impacts associated with construction of the proposed project would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.11-3 Permanent Increase in Ambient Noise Levels.

The project would not create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

The principle long-term, operational noise impacts resulting from the project would include light duty vehicle traffic for security patrols and maintenance operations, including solar panel washing. The on-site water storage tanks would require associated pumping and would operate intermittently. The battery storage component is not considered to be a noise generator. The level of noise generated by these combined sources would depend on: characteristics of the noise source, number of noise sources clustered together, type and effectiveness of building enclosure, and operational characteristics.

Operation and maintenance of the facilities would result in a minor increase in the use of motor vehicles, primarily associated with part-time employees traveling to and from these facilities and routine maintenance and inspection activities. Up to two to three people would be contracted (part-time) to perform all routine and emergency operational and maintenance activities. Work would occur typical working hours, 7 a.m. to 5 p.m. Operation and maintenance related trips would be distributed through the roadway network. Because of the relatively low volume of project-generated traffic, operation of the proposed project 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 project 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 site. The 1-hour average sound level limit for the A-2, A-2-R, and A-3 zones is 75 dBA and noise levels up to 70 dBA L_{dn} are identified as normally acceptable (Table 4.11-1). The noise generated during these collective operations would be required to comply with the noise standards contained in the County's Noise Ordinance. The noise associated with the battery storage system 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. The impact would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.11-4 Airport Noise.

The project 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.

The project would not involve the construction of sensitive land uses. The project site is not located within 2 miles of a public airport or a private airstrip. Therefore, the project would not expose people to excessive airport noise levels and no impact is identified for these issue areas.

Mitigation Measure(s)

No mitigation measures are required.

4.11.3 Decommissioning/Restoration and Residual Impacts

4.11.3.1 Decommissioning/Restoration

Decommissioning or restoration of the solar farm would use similar equipment to what was evaluated in the construction noise and vibration analysis. Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance.

4.11.3.2 Residual

Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance.

4.12 Public Services

This section includes an evaluation of potential impacts for identified public services that could result from implementation of the proposed project. Public services typically include fire protection, law enforcement, schools, and other public facilities such as parks, libraries, and post offices. Each subsection includes descriptions of existing facilities, service standards, and potential environmental impacts resulting from implementation of the proposed project, and mitigation measures where appropriate. Section 4.14, Utilities/Service Systems, of this 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 from the CEQA Guidelines in conjunction with actions proposed in Chapter 3, Project Description.

The Initial Study (IS)/NOP prepared for this EIR determined that the project would not result in impacts on schools, parks and other public facilities (libraries and post offices). Therefore, these issue areas will not be discussed further. The IS/NOP is included in Appendix A of this EIR.

4.12.1 Environmental Setting

The project site is located in unincorporated County, approximately 9 miles southwest of the City of El Centro. The project site is located within the ICFD/OES and the Imperial County Sheriff Department's areas of service.

4.12.1.1 Regulatory Setting

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

State

Fire Codes and Guidelines

The California Fire Code (Title 24, Part 9 of the CCR) 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. 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 project. An analysis of the project's consistency with the applicable goals and objectives of the Seismic and Public Safety Element is provided in Table 4.12-1.

Table 4.12-1. Project Consistency with Applicable General Plan Seismic and Public Safety Element

Applicable General Plan Goals/Policies	Consistency Determination	Analysis
<p><i>Goal 1:</i> Include public health and safety considerations in land use planning.</p> <p><i>Objective 1.8:</i> Reduce fire hazards by the design of new developments</p>	Consistent	<p>The project's CUP application and site plan will be reviewed by the Imperial County Fire Department to ensure that the facility complies with state and local fire codes and fire safety features are met. Additionally, the project applicant has included site design measures to reduce the potential for fire hazards including up to three 10,000 gallon fire water tanks for 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).</p>
<p><i>Goal 2:</i> 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.</p> <p><i>Objective 2.5:</i> Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.</p>	Consistent	<p>See response above for a discussion on how the project 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 project would include 6-foot tall perimeter security fencing with cameras. In addition, the project's driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facility.</p>

Source: ICPDS 1993

CUP = conditional use permit

Imperial County Office of Emergency Services – Multi-Hazard Mitigation Plan

The ICFD is the local Office of Emergency services in Imperial County. Imperial County has developed the multi-jurisdictional hazard mitigation plan (MHMP) to create a safer community. The purpose of the MHMP is to significantly reduce deaths, injuries, and other disaster losses caused by natural and human-caused hazards in Imperial County. The MHMP describes past and current hazard mitigation activities and outlines goals, strategies, and actions for reducing future disaster losses. The Imperial County MHMP is the representation of the County's commitment to reduce risks from natural and other hazards and serves as a guide for decision-makers as they commit resources to reducing the effects of natural and other hazards. The jurisdictions included in the MHMP include the cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial, and Westmoreland, the IID and the Imperial County Office of Education. The MHMP complies with all federal, state, and local laws guiding disaster management.



County Evacuation Plans

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 site is located within the ICFD/OES area of service. ICFD/OES currently has eight fire stations serving the entire 4,500 square miles of unincorporated Imperial County. The eight ICFD stations are located in the communities of Heber, Seeley, Ocotillo, Palo Verde, Niland, Winterhaven, and the City of Imperial. Each of the county fire stations is staffed with a Captain, Firefighter, and Reserve Firefighter with the only exception being the Palo Verde station that is staffed with a Firefighter and Reserve Firefighter. Every fire station has a Type I engine as its primary apparatus. The City of Imperial and Heber stations also house a Ladder Truck along with the Type I engine. The Seeley and Heber stations also house Type III engines. 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 is site is the Seeley station located at 1828 West Park in Seeley, California. This station is located approximately less than 4 miles north of the project site.

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, East County Operations, and City of Holtville. 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. The California Highway Patrol 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 project 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
- Other public facilities

As mentioned previously, it was determined through the preparation of an Initial Study that the project would not result in impacts on 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 project 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 project would not result in the need for additional fire protection services during construction and operational activities.

The project would result in a minor increase in demand for fire protection services over existing levels. No 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 project also intends to feature a battery storage system, located at or near the proposed substation. The batteries would be housed in storage containers or buildings fitted with heating, ventilation and air conditioning and fire suppression systems.

The facility will maintain the required volume of water required for firefighting, based on the number and sizes of structures located on the site. As discussed in Chapter 3, Project Description, up to three 10,000 gallon fire water tanks would be constructed across the solar energy facility site and kept filled during operations for on-site fire protection. Portable fire extinguishers would be provided at various locations throughout the solar energy facility site. Both the access and service roads (along the perimeter of the project facility) 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 project will be provided by vegetation management programs as part of project design measures. As such, the project would not result in a need for fire facility expansion. Decommissioning of the project at the end of its 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 CUP. No new fire stations or facilities would be required to serve the project. 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 project would not result in the need for additional police protection services during construction and operational activities.

The project would result in a minor increase in demand for law enforcement protection services over existing levels. Emergency response times can vary because of the large patrol area of the County. Depending on the location of the deputy, response times can range from approximately 5 minutes to 1 hour; however, emergency calls involving public safety would take priority.

The project does not include a residential component; therefore, it would not result in a substantial addition of residents to the Sheriff Department's service area. A part-time operations and maintenance staff of two to three people would be responsible for performing all routine and emergency operational and maintenance activities. The perimeter of the solar energy facility site (includes the project's substation, battery storage system, and retention basins) would be secured with 6-foot-tall security fencing. In addition, a motion detection system and closed circuit camera system may also be installed. The solar energy facility site would be remotely monitored 24 hours per day, 7 days per week. In addition, routine unscheduled security rounds may be made by the security team monitoring the site security. The solar energy facility site would include both a primary and secondary access driveway off the adjacent public roads. The project's driveways would each be provided with a minimum of 30-foot double swing gates with "Knox Box" for keyed entry. Emergency response personnel would be provided with manual override capability in order to access the site facility. With these features installed on site, the security on the solar energy facility site would be adequate and would not require the addition of staff to the Sheriff's Department. As such, the project would not result in a need for police facility expansion. Decommissioning of the project at the end of its 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 CUP. Impacts would therefore be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

4.12.3 Decommissioning/Restoration and Residual Impacts

4.12.3.1 Decommissioning/Restoration

Decommissioning and restoration of the project site at the end of its 30-year life would occur and would not result in an increased need for fire and police protection services. Decommissioning of the project would occur through implementation of a required Reclamation Plan. These activities would be in the form of disassembling project components, including the battery storage system, and then restoring the site to pre-project conditions, 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.

4.12.3.2 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.

4.13 Transportation/Traffic

This section addresses the project's impacts on traffic and the surrounding roadway network associated with construction and operation of the project. 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 project. The *Traffic Impact Study (TIS) for the Vega SES LLC Solar Project*, completed by Chen Ryan, was used for this assessment and is included in Appendix H of this EIR.

4.13.1 Environmental Setting

The project area is located within the County of Imperial, approximately 9 miles southwest of the City of El Centro, California on approximately 574 gross acres of privately owned, undeveloped agricultural land.

4.13.1.1 Regulatory Setting

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

State

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 I-8.

Regional Plans

2016-2040 Regional Transportation Plan/Sustainable Communities Strategy

On April 7, 2016, SCAG adopted the 2016-2040 RTP/SCS. The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Input from local governments, county transportation commissions (CTC), tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The RTP/SCS demonstrates how the region will reduce emissions from transportation sources to comply with SB 375 and meet the National Ambient Air Quality Standards set forth by the federal Clean Air Act. Consistency with the RTP/SCS is addressed in Section 4.10, Land Use and Planning.

The updated RTP/SCS contains thousands of individual transportation projects that aim to improve the region's mobility and air quality and revitalize our economy. Since the RTP/SCS's adoption, the CTCs have identified new project priorities and have experienced technical changes that are time-sensitive. Additionally, the new amendments for the plan have outlined minor modifications to project scopes, costs and/or funding and updates to completion years. The amendments to the RTP/SCS do not change any other policies, programs, or projects in the plan.

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 (LOS) "C" or better (ICPDS 1993).

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 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 IID facilities as these vary. The minimum intersection spacing is 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 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 site.

Drew Road is a two-lane minor local collector roadway with no median and a posted speed limit of 55 miles per hour. No sidewalks or bicycle facilities are present on either side of the roadway. The width of the roadway is generally 24 feet.

Interstate 8 (I-8) is a four-lane divided freeway with two lanes in each direction with a posted speed limit of 70 miles per hour between Dunaway Road and Forrester Road.

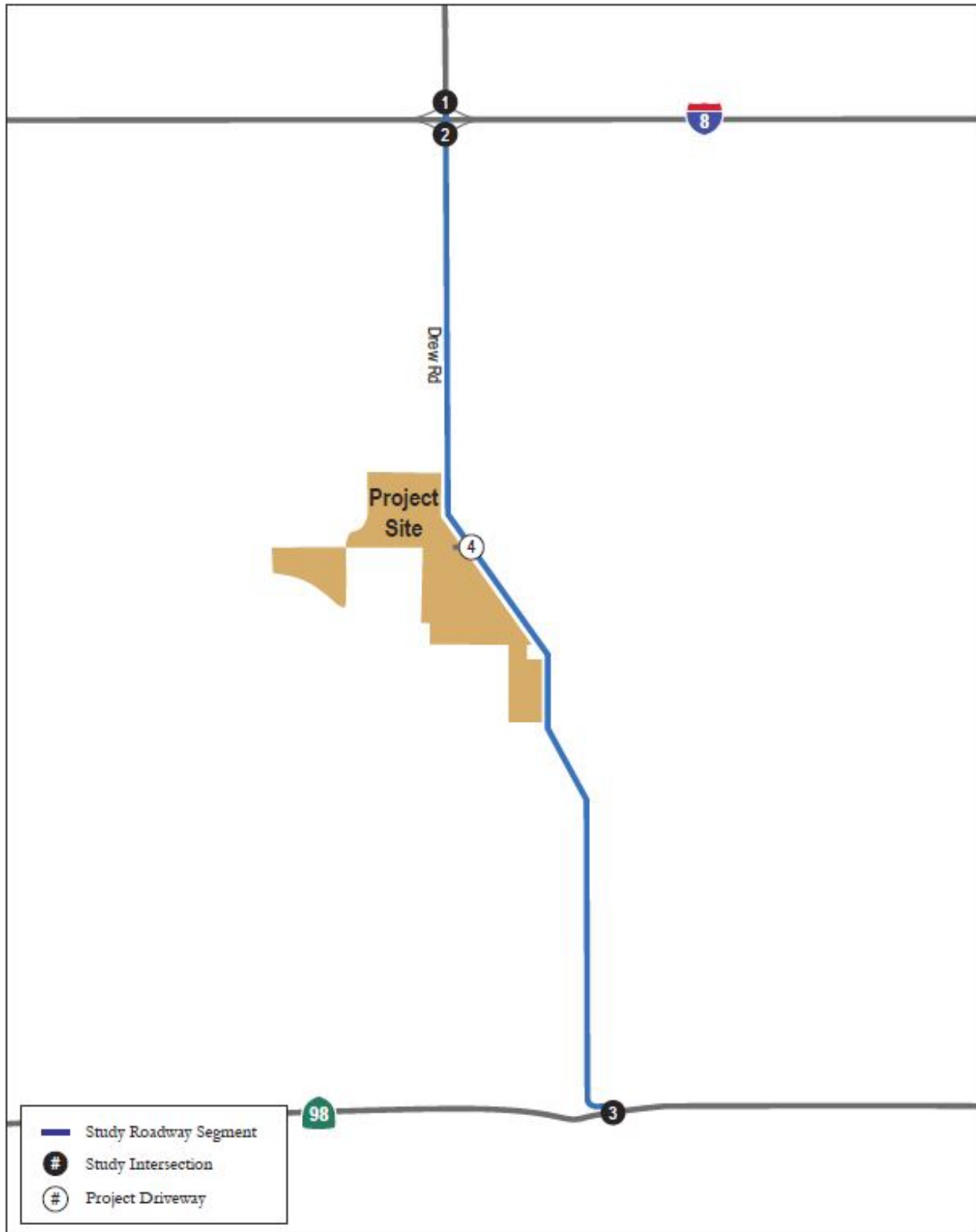
State Route 98 (SR-98) is a two-lane highway with no median and a posted speed limit of 65 miles per hour between I-8 and east of Drew Road.

Key Study Intersections

The following four key study area intersections were analyzed in the TIS (Figure 4.13-1):

1. Drew Road/I-8 Westbound Ramps
2. Drew Road/I-8 Eastbound Ramps
3. Drew Road/SR-98
4. Drew Road and Project Driveway (upon implementation of project)

Figure 4.13-1. Traffic Study Area



Source: Appendix H of this EIR

Existing Level of Service

Intersections

All of the study area roadway segments currently operate at acceptable LOS B or better during the AM and PM peak hours under existing conditions.

Roadway Segments

All of the study area roadway segments currently operate at acceptable LOS C or better under existing conditions.

Freeway Segments

All of the study area freeway segments currently operate at acceptable LOS A in both directions under existing conditions.

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 6:00 a.m. until 6:45 p.m. 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 1 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 site is not within the Fixed Route Transportation system and therefore, would not receive regular bus service to the project site or within the vicinity of the project site.

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

None of the roadway segments within proximity of the project site are designated a bikeway classification

Daily Street Segment Levels of Service

As previously described, the project site is located in a rural setting 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 (ICPDS 1993).

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 LOS 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 because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

The significance criteria for traffic impacts are based on the Imperial County Planning and Development Services Department LOS standard as outlined on page 55 of the Circulation and Scenic Highways Element dated January 29, 2008, which states “The County’s goal for an acceptable traffic service standard on an ADT basis and during AM and PM peak periods for all County-Maintained Road shall be LOS C for all street segment links and intersections. The current practice of determining direct or cumulative impacts is defined by the significance criteria outlined in Table 4.13-1. Table 4.13-1 summarizes the impact significance thresholds for facilities operating at substandard LOS with and without the project. These thresholds, as applied to roadway segments, are based upon an acceptable increase in the volume to capacity (V/C) ratio.

Table 4.13-1. Significance Criteria

Existing	Existing + Project	Existing + Project + Cumulative Projects	Impact Type
Intersections			
LOS C or better	LOS C or better	LOS C or better	None
LOS C or better	LOS D or worse	NA	Direct
LOS D	LOS D and adds 2.0 seconds or more of delay	LOS D or worse	Cumulative
LOS D	LOS E or F	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and delay increases by > 10.0 seconds	LOS F	Direct
Any LOS	Project does not degrade LOS and adds < 2.0 seconds of delay	Any LOS	None
Any LOS	Project does not degrade LOS by adds 2.0 to 9.9 seconds of delay	LOS E or worse	Cumulative
Roadway Segments			
LOS C or better	LOS C or better	LOS C or better	None
LOS C or better	LOS C or better and v/c > 0.02	LOS D or worse	Cumulative
LOS C or better	LOS D or worse	NA	Direct
LOS D	LOS D and v/c > 2.0	LOS D or worse	Cumulative
LOS D	LOS E or F	NA	Direct
LOS E	LOS F	NA	Direct
LOS F	LOS F and v/c increases by > 0.09	LOS F	Direct
Any LOS	LOS E or worse and v/c 0.02 to 0.09	LOS E or worse	Cumulative
Any LOS	LOS E or worse and v/c 0.02 to 0.09	LOS E or worse	Cumulative

Source: Appendix H of this EIR

LOS = level of service; NA = not applicable; V/C = volume to capacity

4.13.2.2 Methodology

The TIS, completed by Chen Ryan, was used for this assessment and is included in Appendix H of this EIR. The TIS was performed in accordance with the requirements of the County of Imperial Department of Public Works Traffic Study and Report Policy. The traffic study area is based on the extent of where in general 50 peak hour trips will travel.

Four scenarios were analyzed in the TIS, including:

- *Existing Conditions* – utilized to establish the existing baseline traffic operations within the study area.
- *Existing Plus Normal Background Growth (Near Term Base) Conditions* – establishes a baseline of existing conditions with normal background growth against which traffic generated by the proposed project can be compared.
- *Existing Plus Normal Background Growth (Near-Term Base Plus Project) Plus Project Conditions* – represents existing conditions with the addition of the normal background growth in the vicinity of the project location with the addition of traffic projected to be generated by the proposed project. As a worst-case scenario, project construction conditions were analyzed since this is the time in which the proposed project site will generate the most traffic.
- *Existing Plus Cumulative Projects (Build-Out) Plus Project Conditions* – represents near-term scenario the addition of cumulative projects located in the vicinity of the proposed project. As a worst-case scenario, project construction conditions were analyzed since this is the time in which the proposed project site will generate the most traffic.

Roadway Segment Level of Service Standards and Thresholds

Roadway segment LOS standards and thresholds provide the basis for analysis of roadway segment performance. The analysis of roadway segment LOS is based on the functional classification of the roadway, the maximum capacity, roadway geometrics, and existing or forecast average daily traffic (ADT) volumes. The County of Imperial LOS analysis was performed by utilizing the Circulation and Scenic Highways Element. For the purposes of this traffic analysis, LOS C is considered acceptable for all street segment links and intersections.

Peak Hour Intersection Level of Service Standards and Thresholds

The following presents the methodologies used to perform peak hour intersection capacity analysis, including unsignalized intersections.

Unsignalized Intersection Analysis

Unsignalized intersections, including two-way and all-way stop controlled intersections were analyzed using the 2010 Highway Capacity Manual unsignalized intersection analysis methodology. The *Synchro 9.0* software supports this methodology and was utilized to produce LOS results. The LOS for a two-way stop controlled (TWSC) intersection is determined by the computed or measured control delay and is defined for each minor movement. Table 4.13-2 summarizes the LOS criteria for unsignalized intersections.

The County of Imperial traffic impact study guidelines consider LOS C or better during the AM and PM peak hours to be the threshold of significance for intersection LOS.

Table 4.13-2. Level of Service Criteria for Stop Controlled Unsignalized Intersections

Average Control Delay (second/vehicle)	LOS
≤ 10	A
> 10 to ≤ 15	B
> 15 to ≤ 25	C
> 25 to ≤ 35	D
> 35 to ≤ 50	E
> 50	F

Source: Appendix H of this EIR

LOS = level of service

Freeway Segment Analysis

Freeway LOS analysis is based upon procedures developed by Caltrans. The procedure for calculating freeway LOS involves estimating a peak hour V/C ratio. Peak hour volumes are estimated from the application of design hour (“K”), directional (“D”) and truck (“T”) factors to ADT volumes. The base capacities for I-8 were assumed to be 2,350 passenger-car per hour per main lane. A 0.95 peak-hour factor (PHF) is utilized for this analysis.

The resulting V/C ratio is then compared to acceptable ranges of V/C values corresponding to the various levels of service for each facility classification, as shown in Table 4.13-3. The corresponding LOS represents an approximation of existing or anticipated future freeway operating conditions in the peak direction of travel during the peak hour. LOS D or better is used in this study as the threshold for acceptable freeway operations based upon Caltrans requirements.

Table 4.13-3. California Department of Transportation Freeway Segment Level of Service Definitions

LOS	Maximum V/C	Congestion/Delay	Traffic Description
A	≤ 0.30	None	Free flow
B	> 0.30 - 0.50	None	Free to stable flow, light to moderate volumes
C	> 0.50 - 0.71	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	> 0.71 - 0.89	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
E	> 0.89 – 1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
F	> 1.00	Considerable	Forced or breakdown flow. Delay measured in average travel speed (miles per hour). Signalized segments experience delays >60.0 seconds/vehicle.

Source: Appendix H of this EIR

LOS = level of service; V/C = volume to capacity ratio

Impact Analysis

Impact 4.13-1 Possible Conflict with Applicable Plan, Ordinance, or Policy.

The development of the project site 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.

Project Trip Generation

The proposed project consists of two phases: construction phase and operations and maintenance phase. The construction phase will have the highest traffic intensity followed by an operations and maintenance phase with significantly less vehicular trips. Therefore, the higher and more conservative construction phase trip generation is used to determine potential project related impacts. Construction activities related to the proposed project consist of the following:

- Racking installation
- Solar panel installation
- System wiring and trenching
- Substation construction

Based on information from the project applicant, there would be a total of 374 daily vehicle trips, 136 from construction worker traffic, and 51 from haul truck traffic incoming during the AM peak hour and the same amount leaving during the PM peak hour.

Project Trip Distribution

Trip distribution for the proposed project was determined based on adjacent land uses, population from the surrounding cities, and information from the project applicant. It was assumed that 10 percent of the traffic will come from the City of Calexico, another 10 percent from the unincorporated areas of Ocotillo, Coyote Wells, and Edgar, and 80 percent from the Cities of El Centro, Imperial, Brawley, and Holtville.

Summary of Level of Service Analyses

As previously indicated, four scenarios were analyzed in the TIS

Four scenarios were analyzed in the TIS, including:

- *Existing Conditions* – utilized to establish the existing baseline traffic operations within the study area.
- *Existing Plus Normal Background Growth (Near Term Base) Conditions* – establishes a baseline of existing conditions with normal background growth against which traffic generated by the proposed project can be compared.
- *Existing Plus Normal Background Growth (Near-Term Base Plus Project) Plus Project Conditions* – represents existing conditions with the addition of the normal background growth in the vicinity of the project location with the addition of traffic projected to be

generated by the proposed project. As a worst-case scenario, project construction conditions were analyzed since this is the time in which the proposed project site will generate the most traffic.

- *Existing Plus Cumulative Projects (Build-Out) Plus Project Conditions* – represents near-term scenario the addition of cumulative projects located in the vicinity of the proposed project. As a worst-case scenario, project construction conditions were analyzed since this is the time in which the proposed project site will generate the most traffic.

Roadway Segments

Table 4.13-4 summarizes the LOS analysis results for key roadway segments within the project study area, under Near-Term Base Plus Project conditions. As shown in Table 4.13-4, all study area roadway segments are projected to operate at LOS C or better under Near-Term Base Plus Project conditions. Therefore, based on the significance criteria outlined in Table 4.13-1, the proposed project would not be associated with a significant impact on any key study roadway segments.

Table 4.13-4. Summary of Roadway Segment Level of Service Analysis

Roadway	Segment	Existing	Near-Term Base	Near-Term Base + Project
Drew Road	Between I-8 Ramps	C or Better	C or Better	C or Better
	I-8 EB Ramps and Access Road	C or Better	C or Better	C or Better
	Access Road and SR-98	C or Better	C or Better	C or Better

Source: Appendix H of this EIR

EB = eastbound; I-8 = Interstate 8; SR-98 = State Route 98; WB = westbound

Intersections

Table 4.13-5 summarizes the intersection LOS and average vehicle delay results under Near-Term Base Plus Project conditions. As shown in Table 4.13-5, all study area intersections are projected to operate at LOS B or better during the AM and PM peak hours under Near-Term Base Plus Project conditions. Therefore, based on the significance criteria outlined in Table 4.13-1, the proposed project would not be associated with a significant impact on any key study intersections.

Table 4.13-5. Summary of Key Intersection Level of Service Analysis

Intersection	Existing	Near-Term Base	Near-Term Base + Project
Drew Road and I-8 WB Ramps	A	A	B
Drew Road and I-8 EB Ramps	B	B	B
Drew Road and SR-98	A	A	A
Drew Road and Project Driveway	A	A	A

Source: Appendix H of this EIR

I-8 = Interstate 8; SR-98 = State Route 98

Freeway Segments

Table 4.13-6 displays the freeway segment LOS analysis results under Near-Term Base Plus Project conditions. As shown in Table 4.13-6, all of the study area freeway segments are projected to operate at acceptable LOS A in both directions under Near-Term conditions. Therefore, based on the significance criteria outlined in Table 4.13-1, the proposed project would not be associated with a significant impact on any key study freeway mainline segments.

Table 4.13-6. Summary of Freeway Segment Level of Service Analysis

Freeway	Segment	Direction	Existing	Near-Term Base	Near-Term Base + Project
I-8	Dunaway Road to Drew Road	EB	A	A	A
		WB	A	A	A
	Drew Road to Forrester Road	EB	A	A	A
		WB	A	A	A

Source: Appendix H of this EIR

EB = eastbound; WB = westbound

Mass Transit and Non-motorized Travel

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 project, a total of 374 daily vehicle trips made to the site are forecasted. Analysis of the LOS of the segments and intersections in the project area, construction would have a minimal effect on traffic as exhibited by Table 4.13-4, Table 4.13-5, and Table 4.13-6 with all segments and intersections retaining a LOS of C or better. Impacts on traffic would be less than significant and would only occur upon duration of construction. Future operations and maintenance would be conducted remotely, with minimal trips to the project site for cleaning and maintaining of the solar panels. The proposed project would not interfere with potential future designated bike routes. Impacts on this issue area are considered 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 project would not exceed an LOS standard established by the County Congestion Management Agency for designated roads or highways.

The County of Imperial General Plan set goals for roadways to retain a LOS of C or better. The TIS prepared by Chen Ryan analyzed the LOS of roadway and freeway segments and key intersections adjacent to the project area. As explained in the above existing conditions, all segments and intersections currently have a LOS of C or better, adhering to the goals set in the County of Imperial General Plan. The TIS also analyzed the LOS of these areas with the addition of predicted annual growth and peak construction traffic. As shown in Table 4.13-4, Table 4.13-5, and Table 4.13-6, all segments and intersections would retain a LOS of C or better during the project construction phase.

Operations and maintenance would be conducted remotely with minimal vehicle trips to clean and maintain solar panels and surrounding areas. Based on these considerations, and adherence to goals set by the County of Imperial General Plan, the project would not conflict with an applicable congestion management program.

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 project would not result in changes to air traffic patterns or roadway traffic resulting in safety issues.

Two options are proposed for mounting the PV solar panels: fixed frames and HSAT systems. The fixed frame configuration would result in panels mounted 7.5 feet above the ground and the HSAT system configuration would result in panels mounted 9 feet above the ground. Therefore, they would not be at a height that would interfere with air traffic patterns. The panels would be arranged in arrays spaced approximately 20 to 25 feet apart to allow access for panel cleaning. The arrays would be separated from each other and the perimeter security fence by nominal 20-foot wide roads, consistent with agency emergency access requirements. These access roads would not increase hazards because of design features or incompatible uses. Therefore, impacts for this issue area are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.13-4 Possible Safety Hazard from Design Features.

Design features related to the project site would not result in hazards or incompatible land uses.

As discussed under Impact 4.13-3, the project does not include changes to existing roadways. 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. These access roads would not increase hazards because of design features or incompatible uses and no significant impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.13-5 Possible Safety Hazard from Inadequate Emergency Access.

Development of the project site would not result in inadequate emergency access.

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. The internal access road would be graded and compacted (native soils) as required for construction, operations, maintenance, and emergency vehicle access. The access and service roads would also have



turnaround areas at any dead-end to allow clearance for fire trucks per fire department standards (70 feet by 70 feet and 20-foot-wide access road). Based on this context, impacts on this issue area are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.13-6 Possible Conflict with Adopted Policies, Plans or Programs.

Development of the project site would not result in a decrease in performance or safety of adopted policies, plans programs for public transit, bicycle, or pedestrian facilities.

As discussed under Impact 4.13-1, there 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. Operations and maintenance would be conducted remotely, with routine cleaning, maintenance, repair, and other services required to ensure longevity of the equipment. The project does not propose modifications to be made to existing roadways serving future designated bikeway routes. Based on this context, impacts on this issue area are considered less than significant.

Mitigation Measure(s)

No mitigation measures are required.

4.13.3 Decommissioning/Restoration and Residual Impacts

4.13.3.1 Decommissioning/Restoration

This section included an analysis of construction traffic for the proposed project. As presented above, construction traffic would not result in a significant impact on any of the project area intersections. A similar scenario would occur during the decommissioning and site restoration stage for the project. 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 site to pre-project conditions. Therefore, decommissioning and restoration of the project site would not generate traffic resulting in a significant impact on the circulation network. A less than significant impact is identified and no mitigation is required.

4.13.3.2 Residual

The construction and operation of the proposed project would not result in direct impacts on 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 project.

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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 project. 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 on Utilities/Service Systems based on criteria derived from the CEQA Guidelines in conjunction with actions proposed in Chapter 3, Project Description. DuBose Design Group, Inc. prepared the *Water Supply Assessment* (WSA) for the VEGA SES Solar Energy Project. This report is included in Appendix I of this EIR.

The IS/NOP prepared for this 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 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 1.8 million cubic yards of remaining capacity and is estimated to remain in operation through 2077 (CalRecycle n.d. (a)). 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 (CalRecycle n.d. (b)). Therefore, there is ample landfill capacity throughout the County 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 facility 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 site would remain pervious. Additionally, the project does not propose any O&M buildings.

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. The valley is an irrigated agricultural area. Agriculture is the most highly water consumptive use in Imperial County.

The Imperial Valley depends solely on the Colorado River for surface water supply. IID delivers its annual entitlement of 3.1 million AF to nearly 500,000 acres for agricultural, municipal, and industrial use. Imperial Dam, located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona, and Mexico. Water diverted at Imperial Dam for use in the Imperial Valley first passes through one of three desilting basins, used to remove silt and clarify the water. From the desilting basins, water is then delivered to the Imperial Valley through the All-American Canal. Three main canals, East Highline, Central Main, and Westside Main, receive water from the 80-mile-long All-American Canal and distribute water to smaller lateral canals throughout the Imperial Valley (IID n.d.)

Approximately 98 percent of the water diverted to Imperial County from the IID is used for agricultural purposes. The area served by IID is located in Imperial Valley, which is generally contiguous with IID's Imperial Unit, lying south of the Salton Sea, north of the U.S./Mexico international border and generally within the 658,942 acre area between IID's Westside Main and East Highline canals. In 2015, IID delivered untreated water to 426,530 net irrigated acres, predominantly in the Imperial Valley along with small areas of East and West Mesa land. The developed area consists of seven incorporated cities (Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland), three unincorporated communities (Heber, Niland, Seeley), and three institutions Naval Air Facility El Centro, Calipatria California Department of Corrections and Rehabilitation, and Centinela. California Department of Corrections and Rehabilitation and supporting facilities.

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 5 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 5 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 project.

State

Senate Bill 610

With the introduction of SB 610, any project under CEQA shall provide a WSA if:

- The project meets the definition of the Water Code Section 10912:

For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

- (1) A proposed residential development of more than 500 dwelling units.
- (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- (4) A proposed hotel or motel, or both, having more than 500 rooms.
- (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.



(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then “project” means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system’s existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system’s existing service connections.

After review of Water Code Section 10912, the solar facility is deemed a “project” because it is a proposed industrial use occupying more than 40 acres of land. It should be noted that California enacted SB 267, amending the Water Code’s Section 10912 definition of a “project” that would trigger a 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 AF of water annually” (California Water Code [Water Code] §10912 (a)(5)(B)).

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 AB 797 on September 21, 1983. Passage of this law was recognition by state legislators that water is a limited resources 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 AFY of water, to prepare and adopt a specific plan every 5 years, which defines their current and future water use, sources of supply and its reliability, and existing conservation measures.

Local

Imperial Integrated Regional Water Management Plan

The Imperial Integrated Regional Water Management Plan (IRWMP) serves as the governing document for regional water planning to meet present and future water resource needs and

demands by addressing such issues as additional water supply options, demand management and determination and prioritization of uses and classes of service provided. In November 2012, the Imperial County Board of Supervisors approved the Imperial IRWMP, and the City of Imperial City Council and the IID Board of Directors approved it in December 2012. Through the IRWMP process, IID presented to the region stakeholders options in the event long-term water supply augmentation is needed, such as water storage and banking, recycling of municipal wastewater, and desalination of brackish water.

Imperial Irrigation District Interim Water Supply Policy for Non-Agricultural Projects

The Interim Water Supply Policy (IWSP) was adopted by the IID Board on September 29, 2009. The IWSP provides a mechanism to address water supply requests for projects being developed within the IID service area. The IWSP designates up to 25,000 AFY of IID's annual Colorado River water supply for new non-agricultural projects, provides a mechanism and process to develop a water supply agreement for any appropriately permitted project, and establishes a framework and set of fees to ensure the supplies used to meet new demands do not adversely affect existing users by funding water conservation or augmentation projects, as needed.

Depending on the nature, complexity, and water demands of the proposed projects, new projects may be charged a one-time reservation fee and an annual water supply development fee for the contracted water volume used solely to assist in funding new water supply projects. All new industrial use projects are subject to the fee, while new municipal and mixed-use projects shall be subject to the fee if the project water demands exceed certain district-wide average per capita use standards. The applicability of the fee to mixed-use projects will be determined by IID on a case-by-case basis, depending on the proportion of types of land uses and water demand proposed for a project.

County of Imperial General Plan

The Imperial County General Plan provides goals, objectives, policies and programs regarding the preservation and use of water. Table 4.14-1 provides a consistency analysis of the applicable Imperial County General Plan goals and objectives from the Conservation and Open Space Element, and Renewable Energy and Transmission Element, as they relate to the proposed project. While the EIR analyzes the project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

Table 4.14-1. County of Imperial General Plan Consistency Analysis – Water Service

Applicable General Plan Goals and Policies	Consistency Determination	Analysis
Conservation and Open Space Element		
Preservation of Water Resources, Goal 6: The County will conserve, protect, and enhance water resources in the County.	Consistent	Since the project would temporarily convert farmland into a non-agricultural use, the project would reduce the need for IID to fallow irrigation; thereby, reducing agricultural water demand.
Preservation of Water Resources, Objective 6.4: Eliminate potential surface and groundwater pollution through regulations as well as educational programs.	Consistent	Currently, groundwater quality in the region is poor. However, since the project would temporarily convert farmland into a non-agricultural use, the project would reduce the amount of water used on site; thereby, reducing potential surface and groundwater pollution from agricultural uses.
Renewable Energy and Transmission Element		
Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.	Consistent	Water for the project site will be used on site during construction, operation, and decommissioning/restoration for potable, non-drinking non-potable water needs. No groundwater will be utilized because of the poor groundwater quality in the region.

Source: ICPDS 1993

IID = Imperial Irrigation District

4.14.1.2 Existing Conditions

Water

IID delivers untreated Colorado River water to the project site for agricultural uses through Wormwood Lateral 5 delivery gate 34B, Wormwood Lateral 7 delivery gates 97 and 98A, and Westside Main Canal delivery gate 8. These gates serve APNs 051-360-031, 051-390-004, 051-390-013, and 051-360-021. The 10-year record for 2008 through 2017 of water delivery accounting is shown in Table 4.14-2.

Table 4.14-2. Historic 10-Year Historic Delivery (AF): 2008 through 2017

Canal/Gate	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Wormwood Lateral 5/34B	2834.3	2636.6	1709.6	1592.3	2680.3	2955.6	2310.2	2437.8	2141.3	1551.3
Wormwood Lateral 7/97	606.0	438.8	415.2	505.1	483.7	513.8	463.3	457.7	286.3	473.6
Wormwood Lateral 7/98A	1066.9	1076.7	830.8	762.6	979.8	1172.6	1343.7	936.3	462.0	441.3
Westside Main Canal/8	349.0	475.2	248.8	603.5	611.2	542.2	381.7	655.1	378.6	427.9
Total	4856.2	4627.3	3204.4	3463.5	4755	5184.2	4498.9	4486.9	3268.2	2894.1

Source: Appendix I of this EIR

AF = acre-feet

Energy

The project site is primarily undeveloped and utilized for agricultural production. Therefore, the site's current energy demand is minimal. The IID would provide electricity service to the project site (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 wise and 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

- 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 project's water consumption during construction and at build-out collectively ("operational").

4.14.2.3 Impact Analysis

Water Supply

Impact 4.14-1 Construction of New or Expansion of Existing Water Facilities.

The project would not 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.

Untreated Colorado River water will be supplied to the project site via existing IID delivery gates on Wormwood Lateral 5 and Lateral 7 and Westside Main Canal. Potable drinking water will be obtained for the duration of the project from a state-approved provider. Therefore, the proposed project would not require or result in the construction of new water treatment facilities or expansion of existing facilities. This is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

Impact 4.14-2 Increase in Water Demand.

The project would have sufficient water supplies available to serve the project from existing entitlements and resources.

Construction

As described in Chapter 3, Project Description, construction of the project would take up to 11 months. Water will be needed during construction for dust control and site grading. All non-potable water for construction will be obtained from IID. As shown in Table 4.14-3, the volume of water to be used during construction is estimated at 275 AF. 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.

Operations and Maintenance

Panel washing and operational water required for O&M of the project will be provided by IID. As described in Chapter 3, Project Description, up to three 10,000 gallon fire water tanks would be constructed across the solar energy facility site and kept filled during operations for on-site fire protection. Water will also be used for periodic cleaning of the solar PV panels. It is anticipated that the solar PV panels will be washed up to two times per year to ensure optimum solar absorption by removing dust particles and other buildup. As shown in Table 4.14-3, it is estimated that a total of 10 AFY would be used in the operation and maintenance of the facility.

Decommissioning

Water may also be required during decommissioning of the project and site restoration at the end of the project's life. As shown in Table 4.14-3, total water demand during decommissioning is estimated to be 50 AF.

Total and Annual Water Demand

According to the WSA prepared by DuBose Design Group, Inc. (Appendix I of this EIR), the anticipated water demand for construction, operation, and decommissioning of the project is estimated to be 625 AF, for an annualized demand of 20.8 AFY for the 30-year project life (Table 4.14-3).



Table 4.14-3. Total and Annual Estimated Life-of-Project Water Demand

Water Use	Total Demand (AF)	Annual Demand (AFY)
Construction	275	9.16
Operations & Maintenance (10 AF x 30 years)	300	10.00
Decommissioning/Site Reclamation	50	1.66
Total Demand, Project Life (AF), and Annual (AFY)	625	20.8

Source: Appendix I of this EIR

AF = acre feet; AFY = acre-feet per year

It is anticipated that IID will provide Schedule 7 General Industrial Use for the proposed project. In the event that IID determines that the project is to utilize IWSP for Non-Agricultural Projects water, the project applicant will enter into an IWSP Water Supply Agreement with IID to meet the project's water demands. IID has adopted an IWSP for non-agricultural projects from which water supplies can be contracted to serve new non-agricultural developments within IID's water service area. The IWSP sets aside 25,000 AFY of IID's Colorado River water supply to serve new non-agricultural projects. Untreated Colorado River water will be supplied to the project via existing IID delivery gates on Wormwood Lateral 5 and Lateral 7 and Westside Main Canal. Potable drinking water will be obtained for the duration of the project from a state-approved provider.

Based on the WSA prepared for the project (Appendix I of this EIR), there is adequate water supply from IID to support the project. IID's IWSP for non-agricultural projects dedicates 25,000 AFY of IID's annual water supply to serve new projects. To date 23,800 AFY remain available for new projects ensuring reasonably sufficient supplies for new non-agricultural water users. Total water usage for the life of the project represents 0.09 percent of the unallocated supply set aside in the IWSP for non-agricultural projects, and approximately 0.01 percent of forecasted future non-agricultural water demands planned in the Imperial IRWMP through 2055. Furthermore, the water demand for the project represents a 99.46 percent decrease from the 10-year average historic average agricultural water use for 2008-2017 at the project site and will provide a reduction in use (3,813.6 AFY for the project life). For all the reasons described herein, the amount of water available and the stability of the IID water supply along with on-farm and system efficiency conservation and other measures being undertaken by IID and its customers ensure that the project's water needs will be met for the next 20 years as requested by SB 610. Therefore, this is considered a less than significant impact.

Mitigation Measure(s)

No mitigation measures are required.

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 project includes the construction of a small scale renewable energy facility and would not require a substantial expansion of new utility service.

The project will help California meet its Renewable Portfolio Standard of 50 percent of retail electricity sales from renewable sources by the end of 2030. The electricity generation process associated with the project 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 CPUC and the definition of “in-state renewable electricity generation facility” in Section 25741 of the California PRC. The project would generate and transmit renewable energy resources and is considered a beneficial effect rather than an impact. The use of energy associated with the project include both construction and operational activities. Construction activities typically include site grading and clearing. Operational activities would include energy consumption associated with vehicular uses.

The project would not use natural gas during the construction or operation of the project. The facility 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 4.14-4 Result in Inefficient Energy Uses of Fuel Type.

The project will require the consumption of fossil fuels during construction activities.

Construction-Related Energy Consumption

Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic.

The project will use energy-conserving construction equipment (see Mitigation Measure AQ-1), including standard mitigation measures for construction combustion equipment recommended in the ICAPCD 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 project. 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 5 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 electricity driven equivalents (provided they are not run on a portable generator set)

Implementation of ICAPCD's standard mitigation measures listed above and the use of energy-conserving construction equipment will ensure that the project's energy consumption during construction is less than significant.

Operational-Related Energy Consumption

The electricity generation process associated with the project 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 CPUC and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC. The project 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 4.14-5 Result in Negative Effects on Local and Regional Energy Supplies Requiring Additional Capacity.

The project is the construction of a small scale renewable energy facility and would therefore provide additional capacity to the regional supply.

The project applicant is anticipated to enter into a PPA (with IID or other public utility provider). 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. The project will help California meet its RPS of 50 percent of retail electricity sales from renewable sources by the end of 2030. Please see discussion under Impact 4.14-3. The project 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 4.14-6 Result in Increased Effects to Peak and Base Period Demands for Electricity and Other Forms of Energy.

The project would not result in increased effects to peak and base period demands for electricity and other forms of energy.

The expected energy usage during generating and non-generating hours for the proposed project will be minimal as no O&M buildings are being proposed. Furthermore, the electricity generation process associated with the project 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 CPUC and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC. The project would generate renewable energy resources and therefore, this is considered a beneficial effect rather than an impact.

Additionally, implementation of ICAPCD's standard mitigation measures listed above will ensure that project 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 project would assist IID in meeting California's mandate to procure 50 percent of its power from renewable resources.

The electricity generation process associated with the project 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 CPUC and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

The use of energy associated with the project includes both construction and operational activities. Implementation of ICAPCD's Standard mitigation measures listed above will ensure that project energy consumption during construction is reduced to a level below significance. The project would not result in noncompliance with existing energy standards. The project would generate renewable energy resources, resulting in beneficial effects. Therefore, impacts would be less than significant.

Mitigation Measure(s)

No mitigation measures are required.

4.14.3 Decommissioning/Restoration and Residual Impacts

4.14.3.1 Decommissioning/Restoration

It is anticipated that a small quantity of water would be required during decommissioning of the project and site restoration at the end of the project's life. However, it is anticipated that this water need would be less than what is required for construction and operation of the project. 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.

4.14.3.2 Residual

The project would not result in significant impacts on the water supply or energy resources of Imperial County; therefore, no mitigation is required. The project will not result in residual impacts.

5 Analysis of Long-Term Effects

5.1 Growth-Inducing Impacts

In accordance with Section 15126.2(d) of the CEQA Guidelines, an 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, projects involving the expansion, modifications, or additions to infrastructure, such as sewer, water, and roads, 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 on 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 project is located within the unincorporated area of Imperial County and does not involve the development of permanent residences that would directly result in population growth in the area. The number of on-site construction workers for the solar facility, battery storage facility, and substation is not expected to exceed 150 workers at any one time. The unemployment rate in Imperial County, as of May 2018 (not seasonally adjusted), was 15.8 percent (State of California Employment Development Department 2018). The applicant expects to utilize construction workers from the local and regional area, a workforce similar to that involved in the development of other utility-scale solar facilities. Based on the unemployment rate, and the availability of the local workforce, construction of the proposed project 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 project, no permanent construction workers would be hired. Once construction is completed, the facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. As such, the proposed project would not induce substantial population growth in the area.

While the proposed project would contribute to energy supply, which indirectly supports population growth, the proposed development is a response to the state’s need for renewable energy to meet its Renewable Portfolio Standard, and while it will increase the availability of renewable energy, it will also replace existing sources of non-renewable energy. Unlike a gas-fired power plant, the proposed

project is 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 SB 2 that a benefit of the Renewable Portfolio Standard is displacing fossil fuel consumption within the state. The project is proposed in response to state policy and legislation promoting development of renewable energy

The proposed project would supply energy to accommodate and support existing demand and projected growth, but the energy provided by the project 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 (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 because of the diversity of factors affecting growth.

While this document has considered that the proposed project, as an energy project, might foster regional growth, the particular growth that could be attributed to the proposed project 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 project. 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 project would not involve the development of any new roadways, new water systems, or sewer and thus, the project 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 site (such as O&M buildings); therefore, there would be no wastewater generation from the proposed project. No infrastructure improvements (potable water and septic system) would be required.

The proposed project involves the expansion of the Renewable Energy Overlay Zone to the project site. The expansion is possible as the project site is located adjacent to, and in proximity to existing transmission facilities. As shown on Figure 4.10-3, Proximity to Existing Renewable Energy Operation and Transmission Source (Section 4.10, Land Use and Planning), additional solar farms could be developed in the proximity to the project site (regardless of whether the proposed project is constructed) because of the existence of existing transmission infrastructure, such as the facilities

located along Wixom Road, Vogel Road, and Drew Road. 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 project 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 project 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 the project. Thus, the project would irretrievably commit resources over the anticipated 30- to 40-year life of the project. However, after 30 to 40 years, the project is 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 site could potentially be retrieved after the site has been decommissioned. The applicant anticipates using the best available recycling measures at the time of decommissioning. Additionally, the project applicant will implement a reclamation plan which will include a performance standard to assess the success of post-project vegetation.

Implementation and operation of the proposed project 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 project is consistent with future buildout plans for the project site under the General Plan, as well as with the state's definition of an "eligible renewable energy resource" in Section 399.12 of the CPUC and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California PRC.

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 Chapter 4 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 Cumulative Impacts

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 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 project 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 project in combination with past and present (existing) and reasonably foreseeable future projects and, in the larger context of the Imperial Valley.
- (3) Evaluate the project’s incremental contribution to the cumulative effects on each resource considered in Chapter 4, Environmental Analysis. When the project’s incremental contribution to a significant cumulative impact is considerable, mitigation measures to reduce the project’s “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 on 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 site 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. Because of uncertain development patterns that are 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").

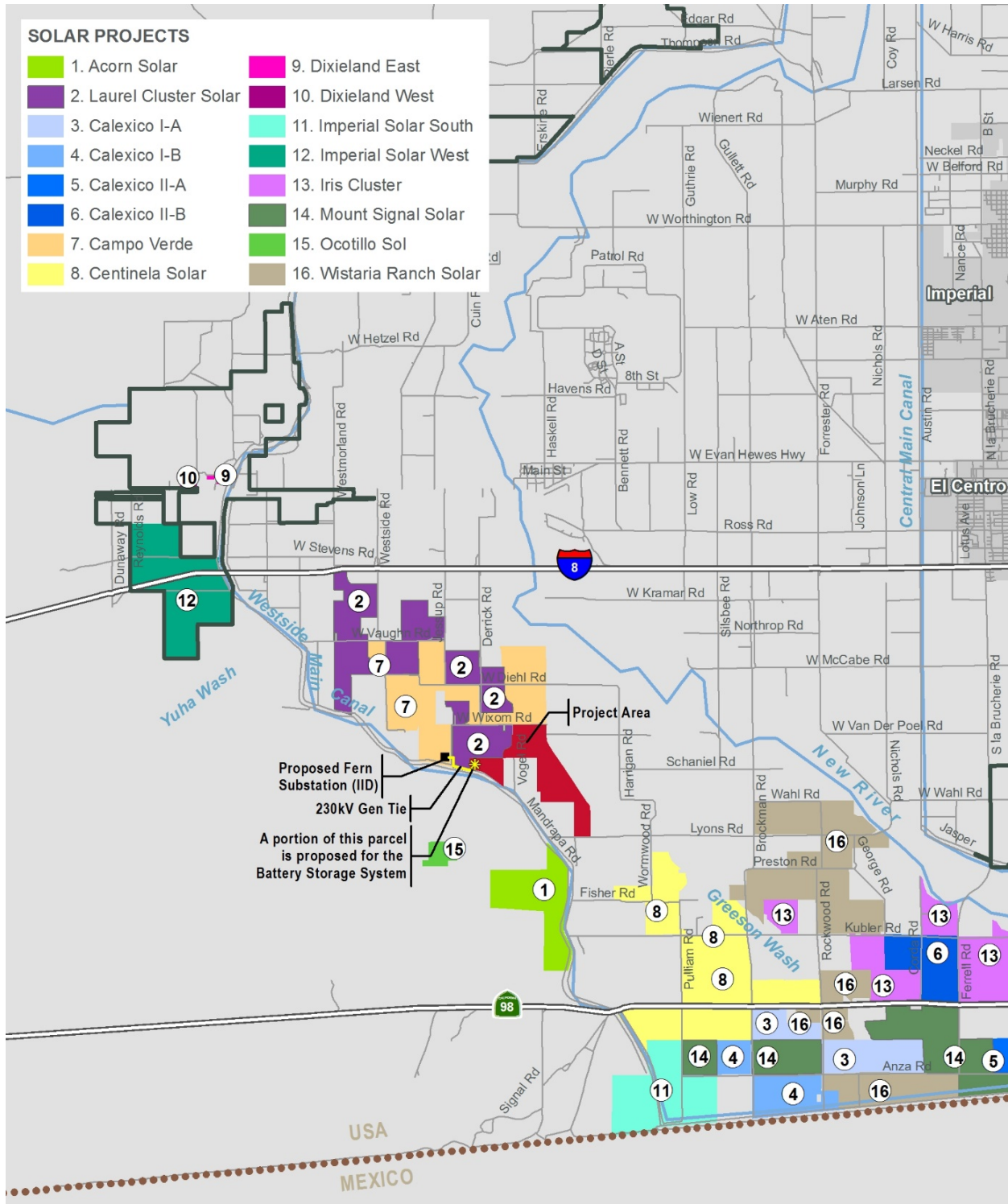
For this EIR, the list approach has been utilized to generate the most reliable future projections of possible cumulative impacts. When the impacts of the project is considered in combination with other past, present, and future projects to identify cumulative impacts, the other projects considered may also vary depending on the type of environmental impacts being assessed. As described above, the general geographic area associated with different environmental impacts of the project defines the boundaries of the area used for compiling the list of projects considered in the cumulative impact analysis. Figure 6-1 provides the general location for each of these projects in relation to the project site.

6.3 Cumulative Impact Analysis

This cumulative impact analysis utilizes an expanded list method (as defined under CEQA) and considers environmental effects associated with those projects identified in Table 6-1 in conjunction with the impacts identified for the project in Chapter 4 of this EIR. Table 6-1 includes projects known at the time of release of the NOP of the Draft EIR, as well as additional projects that have been proposed since the NOP date. Figure 6-1 provides the general geographic location for each of these projects.



Figure 6-1. Cumulative Projects



SOLAR PROJECTS

1. Acorn Solar	9. Dixieland East
2. Laurel Cluster Solar	10. Dixieland West
3. Calexico I-A	11. Imperial Solar South
4. Calexico I-B	12. Imperial Solar West
5. Calexico II-A	13. Iris Cluster
6. Calexico II-B	14. Mount Signal Solar
7. Campo Verde	15. Ocotillo Sol
8. Centinela Solar	16. Wistaria Ranch Solar

LEGEND

 Project Area	 Renewable Energy Overlay Zone
 Proposed Fern Substation (Imperial Irrigation District)	
 Proposed 230kV Gen Tie	
 Battery Storage System (approximate location – See Figures 3-4 and 3-5)	



Table 6-1. Projects Considered in the Cumulative Impact Analysis

Map Label ¹	Project Name	Description of Project	Location	Status ²
1	Acorn Solar	A PV solar facility capable of producing approximately 150 MW of electricity on 693 acres.	Approximately 10 miles southwest of the City of El Centro.	Pending Entitlement
2	Laurel Cluster Solar Farms	Project applicant is seeking approval of four CUPs for the construction of four solar farms. These four projects together are known as the Laurel Cluster Solar Farms and would generate up to 325 MW. The projects may cooperate if necessary to meet power production requirements, including by allowing one project to utilize land designated for another project. Each project is intended to have O&M facilities and an on-site substation, but the projects may also utilize shared facilities.	Approximately 8 miles southwest of the City of El Centro and 3 miles south of Seeley.	Pending Entitlement
3	Calexico I-A (now Mt. Signal III)	A PV solar facility capable of producing approximately 100 MW of electricity on approximately 666 acres.	Approximately 6 miles west of the City of Calexico.	Under construction
4	Calexico I-B	A PV solar facility capable of producing approximately 100 MW of electricity on approximately 666 acres.	Approximately 6 miles west of the City of Calexico.	Approved – not built
5	Calexico II-A (now Mt. Signal III)	A PV solar facility capable of producing approximately 100 MW of electricity on approximately 733 acres.	Approximately 6 miles west of the City of Calexico.	Under construction
6	Calexico II-B	A PV solar facility capable of producing approximately 100 MW of electricity on approximately 732 acres.	Approximately 6 miles west of the City of Calexico.	Operational
7	Campo Verde	The Campo Verde Solar Project consists of three primary components: 1) solar generation equipment and associated facilities on privately owned land (the “solar generation facility”); 2) 230 kV aboveground, electric transmission line(s) and associated facilities (gen-tie) located on both private land and public land managed by the BLM; and 3) battery storage system. The gen-tie will connect the solar generation facility with the Imperial Valley Substation.	Approximately 7 miles southwest of the City of El Centro. Generally located south of I-8, west of Drew Road, and north and east of the Westside Main Canal.	Operational



Table 6-1. Projects Considered in the Cumulative Impact Analysis

Map Label ¹	Project Name	Description of Project	Location	Status ²
8	Centinela Solar	A PV solar facility capable of producing approximately 275 MW of electricity.	Approximately 10 to 12 miles southwest of the City of El Centro.	Operational
9	Dixieland East	The Dixieland East Solar Farm Project encompasses a total of 24 acres and includes three parcels. These parcels would be leased to the project applicant for the 20-year term of the Power Purchase Agreement with IID. This project is capable of generating up to 2 MW AC. This project is located within a Renewable Energy Overlay Zone.	Approximately 11.5 miles west of the City of El Centro. Generally located between the Westside Main Canal to the east and the Dixieland Substation to the west.	Operational
10	Dixieland West	The Dixieland West Solar Farm Project encompasses a total of 29 acres and includes one parcel of land. This parcel would be leased to the project applicant for the 20-year term of the Power Purchase Agreement with IID. This project is capable of generating up to 3 MW AC. This project is located within a Renewable Energy Overlay Zone.	Approximately 11.5 miles west of the City of El Centro. Generally bounded by W. Evan Hewes Highway to the south, vacant land to the west and north, and the Dixieland Substation on the east.	Operational
11	Imperial Solar South	The Imperial Solar Energy Center-South consists of the construction and operation of the 200 MW Imperial Solar Energy Center South solar energy facility; the construction and operation of the electrical transmission lines that would connect from the solar power facility to the existing Imperial Valley substation; and widening of an existing access road along the west side of the Westside Main Canal.	South of SR-98 and immediately east and west of Westside Main Canal.	Operational

Table 6-1. Projects Considered in the Cumulative Impact Analysis

Map Label ¹	Project Name	Description of Project	Location	Status ²
12	Imperial Solar West	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.	Operational
13	Iris Cluster	The Iris Cluster Solar Farm Project involves the construction of four utility-scale PV solar facilities on four non-contiguous independent sites encompassing approximately 1,422 acres.	Easternmost boundary of the project is located approximately 2 miles west of Calexico, California.	Approved – not built
14	Mount Signal Solar I	This project consists of two primary components: (1) the construction and operation of solar facility sites; and (2) the construction and operation of off-site electrical transmission infrastructure and associated interconnections. A portion of the transmission corridor traverses BLM lands.	Approximately 3 miles west of Calexico, California.	Operational
15	Ocotillo Sol	San Diego Gas & Electric filed a ROW application with the BLM for a ROW grant to construct, operate, maintain, and decommission a 100-acre solar photovoltaic facility on BLM-managed lands. The Ocotillo Sol Project would interconnect with the existing Imperial Valley Substation and generate up to 20 megawatts of electricity. In connection with its consideration of the Applicant's ROW application, the BLM will also be considering whether or not to amend the California Desert Conservation Area Plan of 1980, as amended.	Located on BLM-administered public lands, approximately 9 miles southwest of the City of El Centro.	Approved – not built

Table 6-1. Projects Considered in the Cumulative Impact Analysis

Map Label ¹	Project Name	Description of Project	Location	Status ²
16	Wistaria Ranch Solar	The Wistaria Ranch Solar Energy Center Project is a renewable energy project employing PV or concentrated PV technology. The Applicant has filed 17 CUP applications to develop up to 17 individual solar projects or clusters of multiple solar projects on 32 parcels totaling approximately 2,793 acres. Alternatively, the Project could be built out in its entirety (i.e., all 17 CUPs, Full Build-out Scenario) at one time. Each CUP is approximately 20 MW while the entire Project (if built-out at once) is anticipated to generate 250 MW.	Approximately 6 miles southwest of the City of El Centro and 5.5 miles directly west of Calexico, California.	Under construction

Notes: ¹ – See Figure 6-1 for cumulative project location.

² – Project status based on information provided on Imperial County Planning & Development Service’s Renewable Energy GIS Mapping Application (<http://icpds.maps.arcgis.com/apps/Viewer/index.html?appid=c6fd31272e3d42e1b736ce8542b994ae>). Accessed on November 28, 2017.

AC = alternating current; BLM = Bureau of Land Management; CUP = conditional use permit; IID = Imperial Irrigation District; MW = megawatt; PV = photovoltaic; ROW = right-of-way; SR = state route

6.3.1 Aesthetics

The cumulative study area for projects considered in the visual resources cumulative impact analysis considers a 5-mile radius from the project site. Views beyond 5 miles are obstructed by a combination of the flat topography coupled with the Earth’s curvature. The short-term visual impacts of the project would be in the form of general construction activities including grading, use of construction machinery, and installation of the transmission poles and stringing of transmission lines. Longer-term visual impacts of the project would be in the form of the presence of solar array grids, an electrical distribution and transmission system, battery storage system, and substation.

As provided in Section 4.1, Aesthetics, the project site itself is comprised of an agricultural landscape. Undeveloped agricultural lands in the project vicinity are currently transitioning to renewable energy developments (Campo Verde solar facility, Imperial Solar Energy Center West). Although the projects would entail a substantial change in the existing visual character of the project area to solar generating uses, these uses would be located in an area with a general lack of any distinctive visual features, such as varied topography or other topographical features. These factors all contribute to only low to moderate levels of vividness and intactness.

Because the visual changes associated with the project would be located in a remote area viewed by a minimal number of people, the project site is not located within scenic vistas, and is not readily viewable from any frequently travelled interstates or scenic highways. Additionally, with the exception of the transmission line, the project’s structural features would not substantially disrupt background views of mountains to the west. Further, the project site would be restored to pre-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 rural agricultural nature to one with developed characteristics, a less than significant impact associated with the proposed project 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 this portion of the Imperial Valley. 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 Laurel Cluster Solar Farms, Imperial Solar Energy Center South, Imperial Solar Energy Center West, Centinela, Wistaria Ranch, Campo Verde, and others south of 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. All cumulative projects would not impact scenic resources within a state scenic highway as no designated state scenic highway is located within 5 miles of these cumulative projects.

6.3.2 Agriculture and Forestry Resources

Cumulative impacts on agricultural resources take into account the proposed project’s temporary impacts as well as those likely to occur as a result of other existing, proposed, and reasonably foreseeable projects. To determine cumulative impacts on agricultural resources, an assessment is made of the temporal nature of the impacts on individual resources (e.g., temporary such as in solar projects versus permanent as in industrial or residential developments) as well as the inventory of agricultural resources within the cumulative setting.

As discussed in Section 4.2, Agricultural Resources, the project would result in the temporary conversion of 574 gross acres of Important Farmland, which would correspond with the duration of the lease of the property for solar farm use. Thus, the proposed project would incrementally add to the temporary conversion of agricultural land in Imperial County. According to the *California Farmland Conversion Report*, approximately half of the County (538,326 acres out of a total of 1,028,508 acres) is Important Farmland (California DOC 2015). Table 6-2 summarizes the percentage of each type of farmland in the County that would be converted by the proposed project.

Table 6-2. Percentage Conversion of Important Farmland by the Proposed Project

Agriculture Classification	Total Acreage in Imperial County (2012)	Approximate Acreage Converted on Project Site	Project Percent of County Acreages
Prime Farmland	192,951	490.64	0.25
Farmland of Statewide Importance	305,614	59.05	0.02
Farmland of Local Importance	37,687	0.0	0
Unique Farmland	2,074	0.0	0
Total	538,326	549.69	0.11

As shown in Table 6-2, the Prime Farmland and Farmland of Statewide Importance within the project sites comprises approximately 0.27 percent (0.25 + 0.02) of the total Important Farmland in the County. Thus, the proposed project would temporarily convert a very small fraction of the total Important Farmlands in the County and have a minimal effect on agricultural land on a cumulative scale. Furthermore, the conversion would be temporary and last for the duration of the project’s useful life, which is expected to be up to 30 to 40 years.

During the 2010 to 2012 time frame, 5,393 acres of Important Farmland was converted to non-agricultural uses (California DOC 2015). Farmland conversions occurred for a variety of reasons, including fallowing of lands resulting in a conversion to a non-irrigated classification, and conversion to urban and other non-energy related uses because of development of farmsteads, rural commercial facilities, low-density housing, mining facilities, and dairy expansions. The trend in the conversion of agricultural land is expected to continue because of development pressure, and other factors. Table 6-1 identifies 16 projects for consideration in the cumulative analysis. All of these projects are renewable energy projects. The solar facilities located in close proximity to the proposed project include the Campo Verde Solar Project and Imperial Solar Energy Center West. The majority of the cumulative projects are located on private lands, which are predominately agricultural, and would have agricultural impacts similar to the proposed project. The impacts of these individual projects include conversion of Important Farmland. Table 6-3 provides a summary of the cumulative projects that contain Important Farmland.

Table 6-3. Summary of Farmlands by Type for Cumulative Projects

Cumulative Project	Prime Farmland	Farmland of Statewide Importance
Calexico I-A	130.0	588.7
Calexico I-B	184.0	406.0
Calexico II-A	0	937.8
Calexico II-B	6.5	548.2
Campo Verde	660	1,110.0
Centinela Solar	138	1,927
Imperial Solar South	478.9	341.8
Iris Cluster	160.4	1,229.05
Mount Signal Solar	88.7	1,339.4
Laurel Cluster	507.53	827.29
VEGA SES Solar Energy Project	490.64	59.05
Total	2,844.67	9,314.29

The project would result in the temporary conversion of 549 acres of Important Farmland (Prime Farmland and Farmland of Statewide Importance), which would correspond with the duration of the lease of the properties for solar farm use. With the implementation of Mitigation Measure AG-1a, this impact would be reduced to a level less than significant. As with the project, cumulative projects have been, and are expected to continue to provide mitigation for any impacts on agricultural resources.

When the proposed project is combined with the cumulative projects identified in Table 6-3, the total agricultural land conversion (Prime Farmland and Farmland of Statewide Importance) is estimated to

be 12,158 acres. The proposed project would contribute approximately 4.5 percent (549 acres ÷ 12,158 acres) of the total temporary agricultural land conversion by the cumulative projects. The cumulative projects combined would contribute to conversion of approximately 2.26 percent (12,158 acres ÷ 538,326 acres) of the farmland in Imperial County. With implementation of Mitigation Measures AG-1a and AG-1b, the project's contribution to this impact would be less than cumulatively considerable. Likewise, each individual cumulative project would be required to provide mitigation for any impacts on agricultural resources in accordance with the County's policies directed at mitigating the impact associated with the conversion of important farmlands.

Given that the incremental impact of the loss of approximately 549 acres would be mitigated via AG-1a and AG-1b, in addition to full restoration of the project site per the requirement that each project prepare and implementation of a Reclamation Plan to comparable agricultural production under post-project conditions, following the conclusion of the lease, project-related agricultural conversion impacts would be reduced to a less than significant level.

6.3.3 Air Quality

The SSAB is used as the geographic scope for the analysis of cumulative air quality impacts because of the geographic factors, which are the basis for designating the SSAB, the existence of an AQMP, SIP, and requirements set forth by the ICAPCD, which apply to both the construction and operational aspects of all cumulative projects within the SSAB. Table 6-1 lists the projects considered for the air quality cumulative impact analysis. As shown in Table 6-1, many of these projects are large-scale renewable energy generation projects, where the main source of air emissions would be generated during the construction phases of these projects; however, there would also be limited operational emissions associated with O&M activities for these facilities. Additionally, several of the projects listed in Table 6-1 are already constructed. Cumulative projects listed in Table 6-1 in closer proximity to the proposed project are not anticipated to involve overlapping construction activities with the proposed project, therefore the potential for a cumulative, short-term air quality impact as a result of construction activities is anticipated to be less than significant.

Currently, the SSAB is either in attainment or unclassified for all federal and state air pollutant standards with the exception of 8-Hour ozone, PM₁₀, and PM_{2.5}. Imperial County is classified as a "serious" nonattainment area for PM₁₀ for the NAAQS. On November 13, 2009, EPA published Air Quality Designations for the 2006 24-Hour Fine Particle (PM_{2.5}) NAAQS 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 County and it has been determined that the proposed project is located within the nonattainment boundaries for PM_{2.5}.

The AQAP for the SSAB, through the implementation of the AQMP 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
- 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

Potential short-term impacts of the proposed project would result because of 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 project's 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 project, during the construction and decommissioning phases, the project would generate PM₁₀, PM_{2.5}, ROG, and NO_x emissions during each active day of construction. Air emissions from the construction of the 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 project's impact could be cumulatively considerable because: (1) portions of the SSAB are nonattainment already (PM₁₀ 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 project, 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 PM₁₀ and NO_x; however, like the proposed project, 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 project will be required to implement measures consistent with ICAPCD regulations designed to alleviate the cumulative impact associated with PM₁₀, the proposed project's contribution is rendered less than cumulatively considerable.

Operation

In the long-term, operation of the proposed project would result in minor emissions associated with operation and maintenance activities. As discussed Section, 4.3 Air Quality, 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 project 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 proposed project, would assist attainment of regional air quality standards and improvement of regional air quality by providing clean, renewable energy sources. Consequently, the project 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 PM₁₀ and PM_{2.5} emissions during operation of the cumulative projects is a concern because of the fact that Imperial County is classified as a "serious" non-attainment area for PM₁₀ 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 previously indicated, the project is located within the nonattainment boundaries for PM_{2.5}.

As discussed Section, 4.3 Air Quality, the project's operational contribution to PM₁₀ is below a level of significance. However, when combined with other cumulative projects, the operational PM₁₀ 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 addition be required to prepare and implement operational dust control plans (Mitigation Measure AQ-5) 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. 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, CDFW and USFWS have promulgated a regulatory scheme that limits impacts on these species. The effects of the project 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 would also be required to avoid impacts on 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 project has the potential to result in impacts on biological resources. These impacts are generally focused on potential construction-related effects to burrowing owl, migratory birds, flat-tailed horned lizard, and Yuma hispid cotton rat.

Burrowing Owls are protected by the CDFW mitigation guidelines for burrowing owl (CDFW 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 BIO-1, BIO-2, and BIO-3 contain these requirements thereby minimizing potential impacts on these species to a less than significant level.

Additionally, as provided in Section 4.4, Biological Resources, flat-tailed horned lizard, and Yuma hispid cotton rat have the potential to be present. In addition, several common bird species could nest on the project site. As a result of project-related construction activities, one or more of these species could be harmed. However, with the implementation of Mitigation Measures BIO-3 and

BIO-5 through BIO-11 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 project would be required to comply with the legal framework as described above. Based on these considerations, impacts on biological resources would not be cumulatively considerable.

As with the proposed project, each of the cumulative projects would be required to provide mitigation for impacts on biological resources. 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 on biological resources.

Birds listed at 50 CFR 10.3 are protected by the MBTA (16 USC 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 USC 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 Game Codes 3503.5, 3503, 3513.

The 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 site that could otherwise be directly impacted by construction of the proposed project. Likewise, Mitigation Measures HWQ-1 through HWQ-3 would be required to avoid or minimize potential water quality impacts that could otherwise indirectly impact biological resources.

The proposed project 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 project 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, no sensitive historical resources were identified within the project site. Therefore, the proposed project would not cause a substantial adverse change in the significant of a historical resource as defined in Section 15064.5 of the CEQA Guidelines and no impact would occur.

The potential of finding a buried archaeological site during construction is considered low. However, like all construction projects in the state, the possibility exists. This potential impact is considered significant. Implementation of Mitigation Measures CR-1 and CR-2 would reduce potential impacts associated with the unanticipated discovery of unknown buried archaeological resources. Implementation of Mitigation Measure CR-3 would ensure that the impact on paleontological resources during construction would be mitigated to a level less than significant. Implementation of Mitigation Measure CR-4 would reduce potential impacts on human remains to a level less than significant.

Future projects with potentially significant impacts on cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources through implementation of similar project-specific mitigation measures during construction. Therefore, through compliance with regulatory requirements, standard conditions of approval, and Mitigation Measures CR-1 through CR-4, the proposed project would have a less than cumulatively considerable contribution to impacts on cultural resources.

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

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 on geologic resources would be considered significant if the project 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 project's 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 site. Therefore, the project would not result in a cumulative geology/soils impact for mineral resources.

6.3.7 Greenhouse Gas Emissions

Emissions of 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 project 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 SCAQMD has proposed a threshold of 3,000 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 project's CO₂ emissions would not exceed SCAQMD's threshold of 3,000 tCO_{2e}.

Given that the project is characterized as a renewable energy project 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 1 mile of the boundary of the project site. One mile is the standard American Society of Testing and Materials (ASTM) standard search distance for hazardous materials.

Under cumulative conditions, implementation of the project 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 project and related projects would all involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction, operation, and decommissioning. Impacts from these activities are less than significant for the project 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 project 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 project 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

Table 6-1 lists the projects considered for the hydrology and water quality cumulative impact analysis. The geographic scope for considering cumulative hydrology and water quality impacts is the Imperial Valley Hydrologic Unit as defined by the Colorado Basin RWQCB Basin Plan. The construction of the project is expected to result in short-term water quality impacts. Substantial short-term cumulative water quality impacts may occur during simultaneous construction of the project and other cumulative projects (Laurel Cluster Solar Farms, Acorn Solar) identified in Table 6-1. However, the construction phasing of these projects is currently not anticipated to overlap. Furthermore, in compliance with the SWRCB's NPDES general permit for activities associated with construction (2009-0009-DWQ) would reduce water quality impacts. As with the project, 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 CWA 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 project is not expected to result in long-term operations-related impacts related to water quality. The project 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 CWA, Section 402(p)(1) and 40 CFR 122.26, and implemented Order No. 90-42 of the RWQCB. 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 on water quality would be minimized to a less than significant level.

Based on a review of the FEMA FIRM, the project site is located within Zone X, which is an area determined to be outside of the 100-year floodplain. As such, the project would not result in a significant cumulatively considerable impact on floodplains by constructing new facilities within an identified flood hazard zone.

As discussed in Section 4.9, Hydrology/Water Quality, the proposed project 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 the required runoff storage volume. Based on these considerations, the project would not contribute to or result in a significant cumulatively considerable adverse hydrology or water quality impact.

6.3.10 Land Use/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 1-mile buffer to ensure a consideration for reasonably anticipated potential direct and indirect effects.

As provided in Section 4.10, Land Use/Planning, the project 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/Planning, the project would not conflict with the goals and objectives of the County of Imperial General Plan. In addition, a majority of the cumulative projects identified in 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. Where General Plan Amendments and/or Rezones are required to extend the RE Overlay Zone (such as the case of the Laurel Cluster Solar Farms Project), these projects would be required to demonstrate consistency with the overall goals and policies of the General Plan, and would be required to demonstrate meeting the criteria for extending the RE Overlay onto the project site. 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 project's 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 site 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 project's 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 project 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. The site preparation phase would be anticipated to generate the most substantial noise levels as the on-site equipment associated with grading, compacting, and excavation tend to be the loudest.

As discussed in Section 4.11, Noise and Vibration, the project's noise levels would not exceed the County's 75 dBA L_{eq} construction noise threshold. Therefore, impacts from construction noise are considered less than significant. Similar to the proposed project, other cumulative projects would be required to comply with the County's construction noise standards. Construction activity is limited to the hours of 7 a.m. to 7 p.m. Monday through Friday, and 9 a.m. to 5 p.m. on Saturdays. Adhering to the County's construction hours would reduce the noise and vibration impacts to below a level of significance. Thus, the incremental contribution of the project to a cumulative noise impact would not be 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. For the proposed project, no noise impacts have been identified. Operation of the other cumulative projects listed in Table 6-1 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. However, given that the project facilities would be constructed within the A-2, A2-R and A-3 zones, and components of the project associated with noise during operation would be located at appropriate distances from the residential uses scattered in this portion of the County, long-term operational noise levels are not expected to exceed normally acceptable noise levels for these zones (e.g., 70 dBA L_{dn}). Thus, the incremental contribution of the project to significant cumulative noise impacts would not be cumulatively considerable.

6.3.12 Public Services

The project would result in increased demand for public services (fire protection service and law enforcement services) (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 project's 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 project would not increase demands for education, or other public services. Service impacts associated with the project 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

The geographic scope of the cumulative analysis for transportation/circulation is based on the roadways in the vicinity of the project site that may be impacted by traffic generated by the project and cumulative projects.

As provided in the TIS, which is provided in Appendix H of this EIR, the Acorn Solar Project Transmission Line Right-of-Way was identified by County of Imperial staff as the sole cumulative project in the vicinity of the proposed project. The Acorn Solar Project Transmission Line Right-of-Way is located south of Liebert Road, west of Mandrapa Road, and 5,400 feet north of SR 98, in the County of Imperial. The project proposes to build, operate, and maintain a single-circuit, 230 kV aboveground gen-tie line that will interconnect the Acorn Solar Project. The project is located

on private land in western Imperial County, with the existing Imperial Valley Substation, located approximately 0.35 miles west of the Acorn Solar Project site on an existing approximately 1,300 acres of agricultural land.

The construction traffic generated from the Acorn Solar Project Transmission Line Right-of-Way was included in the Cumulative Project scenario. The cumulative project is divided into phases with the foundation installation and structure erection phase estimated to have the highest trip generation. This cumulative project would generate a total of 394 average daily trips with 197 trips (197 in/0 out) during the AM peak hour and 197 trips (0 in/197 out) during the PM peak hour.

The Buildout conditions (cumulative) traffic volumes were derived by adding the additional trips generated by the Acorn Solar Project Transmission Line Right-of-Way to the Near-Term Base Plus Project. Based on the TIS:

- All key study area roadway segments are projected to operate at acceptable LOS C or better under cumulative conditions
- All study area intersections are projected to operate at acceptable LOS B or better during the AM and PM peak hours under cumulative conditions
- All of the study area freeway segments are projected to operate at acceptable LOS A in both directions under Buildout conditions.

Based on these findings, the project would not result in cumulatively considerable transportation/traffic 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 Section 4.14, Utilities/Service Systems, the necessary public utilities would be provided to the project by IID; however, the project is 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 site (such as O&M buildings); therefore, there would be no wastewater generation from the proposed project. No extension of sanitary sewer service would be required.

The project would not generate significant volumes of solid waste that could otherwise contribute to significant decreases in landfill capacity. Furthermore, during project decommissioning, a collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. Based on these considerations, the project would result in less than significant impacts on existing utility providers and, therefore, would not result in cumulatively considerable impacts.



7 Effects Found Not to be Significant

In accordance with Section 15128 of the CEQA Guidelines, an 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 IS and NOP prepared for the proposed project (Appendix A of this EIR), Imperial County has determined that the proposed project 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 site is located on privately owned, undeveloped agricultural land. No portion of the project site or the immediate vicinity is zoned or designated as forest lands, timberlands, or Timberland Production. As such, the proposed project would not result in a conflict with existing zoning or cause rezoning. Therefore, implementation of the proposed project would not impact forestry resources.

7.2 Mineral Resources

The project site is 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 site nor does the project site contain mapped mineral resources. As such, the proposed project would not adversely affect the availability of any known mineral resources. Therefore, no impact is identified for mineral resources.

7.3 Recreation

The proposed project 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 project does not include or require the expansion of recreational facilities. Therefore, no impact is identified for recreation.

7.4 Population and Housing

The project site is currently used for agricultural production. Development of housing is not proposed as part of the project. Once construction is completed, the facility would be remotely operated, controlled and monitored and with no requirement for daily on-site employees. Security personnel may conduct unscheduled security rounds, and would be dispatched to the project site in response to a fence breach or other alarm. A part-time operations and maintenance staff of two to three people would be responsible for performing all routine and emergency operational and maintenance activities. The proposed project would not result in substantial population growth, as the number of employees required to operate and maintain the facility is minimal. Therefore, no impact is identified for population and housing.

7.5 Public Services

7.5.1 Schools, Parks, and Other Facilities

The proposed project does not include the development of residential land uses that would result in an increase in population or student generation. Construction of the proposed project 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 project 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

7.6.1 Wastewater and Stormwater

The project 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 site (such as O&M buildings); therefore, there would be no wastewater generation from the proposed project. The proposed project would not exceed wastewater treatment requirements of the Regional Water Quality Control Board.

The proposed project is 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 battery storage containers, substation, and gentie would not require water during operation of the project; therefore, these components would not contribute to runoff water. The proposed project 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. As described in Chapter 3, Project Description, to retain the total volume of a 3-inch precipitation covering the solar energy facility site with no reduction from infiltration, storm water retention basins would be constructed on the solar energy facility site to manage stormwater runoff. No Imperial Irrigation District drains or canals will be removed or relocated within the project site. A less than significant impact is identified for these issue areas.

7.6.2 Solid Waste

During construction and operation of the project, 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 1.8 million cubic yards of remaining capacity and is estimated to remain in operation through 2077 (CalRecycle, n.d. (a)). The CR&R Material Recovery and Transfer station has a maximum permitted throughput of 99 tons per day. No closure date has been reported for this facility (CalRecycle, n.d. (b)). 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 project would generate solid waste during construction and operation, it 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 will contain provisions for recycling and diversion of construction waste per policies of the County.

At the end of the project's useful life, approximately 30 years in the future, some waste would be generated from decommissioning of the facility. A collection and recycling program will be executed to promote recycling of project components and minimize disposal in landfills. As described in Chapter 3, Project Description, of this EIR, 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 site and temporary on-site haul roads would be de-compacted.
- 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.

As a good portion of the dismantled materials would likely be salvaged, impacts on solid waste service and landfill capacity are anticipated to be less than significant during project decommissioning.

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8 Alternatives

8.1 Introduction

The identification and analysis of alternatives is a fundamental concept under CEQA. This is evident in that the role of alternatives in an 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 project include:

- Construct and operate a solar energy facility capable of producing up to 100 MW of electricity to help meet the state-mandated RPS of providing 50 percent renewable energy by 2030
- Provide a 100 MW energy (battery storage) system, that would accommodate and store the power generated by the project so that the facility can continue to provide renewable energy during non-daylight hours

- Operate a facility at a location that ranks amongst the highest in solar resource potential in the nation
- Interconnect directly to the IID electrical transmission system
- 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 AB 32 (California Global Warming Solutions Act of 2006)
- Provide an investment in California and Imperial County that would create jobs and other economic benefits

8.3 Alternative 1: No Project/No Development Alternative

The CEQA Guidelines require analysis of the No Project Alternative (PRC 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 project, as proposed, would not be implemented and the project site 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 and Visual Resources

Under the No Project/No Development Alternative, the project site would not be developed and continue to be undeveloped agricultural land. Because the No Project/No Development Alternative would not modify the existing project site by constructing a utility-scale solar energy facility, there would be no change to the existing condition of the site. Under this alternative, there would be no potential to create a new source of light or glare associated with the PV arrays. A less than significant aesthetic impact (including potential light and glare impact) has been identified associated with the project. However, because there would be no change to the existing condition of the project site under this alternative, there would be no potential impact associated with a change in visual character of the site and the potential aesthetic impact would be less as compared to the project as the existing visual conditions would not change.

Agricultural Resources

Under the No Project/No Development Alternative, the project site would not be developed and continue to be utilized as active, agricultural land. Compared to the proposed project, implementation of this alternative would avoid the conversion of land designated as Prime Farmland and Farmland of Statewide Importance per the FMMP. Therefore, this alternative would not



contribute to the conversion of agricultural lands or otherwise adversely affect agricultural operations. Compared to the proposed project, this alternative would avoid the need for future restoration of the project site to pre-project conditions.

Air Quality

Under the No Project/No Development Alternative, there would be no air emissions because of project construction or operation, and no project- or cumulative-level air quality impact would occur. Therefore, no significant impacts on air quality or violation of air quality standards would occur under this alternative. Similar to the proposed project, this alternative would be consistent with existing AQAPs and would not result in the creation of objectionable odors.

As discussed in Section 4.3, Air Quality, the proposed project would not exceed the ICAPCD's 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.

This alternative would result in less air quality emissions compared to the proposed project. However, 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 on 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 project.

Biological Resources

Under the No Project/No Development Alternative, existing biological resource conditions within the project site would largely remain unchanged and no impact would be identified. Unlike the proposed project which requires mitigation for potential impacts on burrowing owl, nesting birds, flat-tailed horned lizard, and Yuma hispid cotton rat, this alternative would not result in construction of a solar facility that could otherwise result in significant impacts on these biological resources. Similar to the proposed project, 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 of biological species or any provisions of an applicable habitat conservation plan. Compared to the proposed project, this alternative would avoid potential direct and indirect impacts on biological resources. The impact on biological resources would be less than the proposed project.

Cultural Resources

The project includes ground-disturbing activities that will extend to depths of 20 feet below the ground surface. As such, the project has the potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources pursuant to CEQA. The proposed project also has the potential to impact paleontological resources. Under the No Project/No Development Alternative, the project site would not be developed and no construction-related ground disturbance would occur. Therefore, compared to the proposed project, this alternative would avoid impacts on cultural resources and paleontological resources. The impact on cultural resources would be less than the proposed project.

Geology and Soils

Because there would be no development at the project site under the No Project/No Development Alternative, no grading or construction of new facilities would occur. Therefore, there would be no impacts on project-related facilities as a result of local seismic or liquefaction hazards or unstable or expansive soils. In contrast, the proposed project would require the incorporation of mitigation measures to minimize impacts to a less than significant level. Compared to the proposed project, this alternative would avoid significant impacts related to local geological and soil conditions. The impact on geology and soils would be less than the proposed project.

Greenhouse Gas Emissions

Under the No Project/No Development Alternative, there would be no GHG emissions resulting from project construction or operation. Therefore, no impact on global climate change would result from project-related GHG emissions, primarily associated with construction activities. For the proposed project, a less than significant impact was identified for construction-related GHG emissions, and in the long-term, the project would result in an overall beneficial impact on global climate change as the result of creation of renewable energy. While this alternative would not further implement policies 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 on global climate change. Compared to the proposed project, 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 project. Because no significant GHG impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

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 project, this alternative would not result in safety hazards associated with airport operations. Compared to the proposed project, 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 project, 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 TMDLs for local drainages, this alternative would not realize the benefits that could be attributed to the project 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 project would require additional mitigation, which would not otherwise be required under this alternative to address existing water quality impairments. Compared to the proposed project, from a drainage perspective, this alternative would avoid changes to existing hydrology. Similar to the proposed project, this alternative would not result in the placement of structures within a 100-year flood zone.

This alternative would have less of an impact associated with hydrology/water quality as compared to the proposed project.

Land Use/Planning

The No Project/No Development Alternative would not result in the modification of the existing land use on the project site. Under the No Project/No Development Alternative, the project site would not be developed and continue to be undeveloped agricultural land. Similar to the proposed project, the No Project/No Development Alternative would not divide and established community. As with the proposed project, this alternative would not conflict with any applicable habitat conservation plan or natural community conservation plan. Because no significant Land Use and Planning impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Noise and Vibration

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 site. For this reason, no significant noise impacts would occur. As discussed in Section 4.11, Noise and Vibration, the proposed project would not result in significant noise impacts on sensitive receptors during construction and operation. Compared to the proposed project, this alternative would not generate noise and would result in a similar impact related to noise.

Public Services

The No Project/No Development Alternative would not increase the need for public services which would otherwise be required for the proposed project (additional police or fire protection services). Therefore, no impact on public services is identified for this alternative. The proposed project will result in less than significant impacts on public services; subject to payment of law enforcement and fire service fees. Compared to the proposed project, this alternative would overall, result in less of an impact related to public services as there would be no change in demand for these 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 under 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 because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Although the proposed project would result in less than significant transportation/traffic impacts, compared to the proposed project, 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/Service Systems

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 project would not result in any significant impacts on existing utilities. Compared to the proposed project, 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 project. 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 project.

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 project. 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 AB 32.

8.4 Alternative 2: Reduced Site Acreage Alternative (Avoid Prime Farmland)

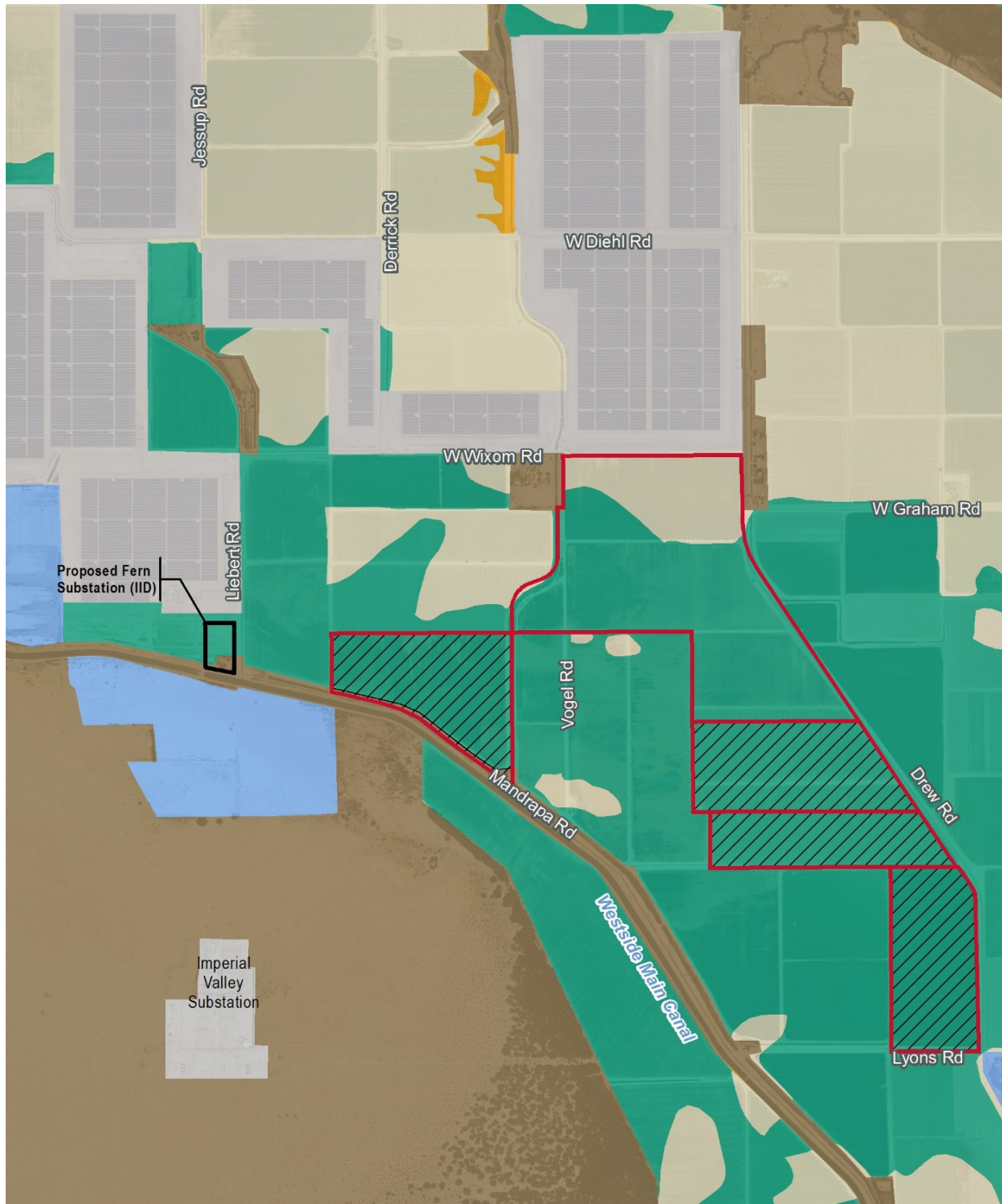
The purpose of this alternative is to avoid the Prime Farmland located within the project site. As discussed in Section 4.2, Agricultural Resources, the project site is comprised of Prime Farmland, Farmland of Statewide Importance, and Other Land. Under Alternative 2, the overall size of the solar energy facility would be reduced by approximately 226 acres by avoiding the development of parcels that contain large areas of Prime Farmland. This alternative is illustrated on Figure 8-1, which shows the location of the Prime Farmland that would be avoided.

Environmental Impact of Alternative 2: Reduced Site Acreage Alternative (Avoid Prime Farmland)

Aesthetics and Visual Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced. No significant visual aesthetic impact associated with the proposed project has been identified as the project facilities would not impact scenic resources, result in the substantial degradation of the existing visual character of the project site, or result in light/glare impacts. In this context, Alternative 2 would not reduce or avoid an impact related to aesthetics and visual resources, and would result in less than significant impacts similar to the proposed project.

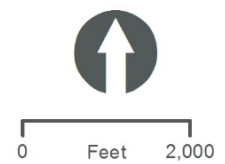
Figure 8-1. Alternative 2: Reduced Site Acreage Alternative (Avoid Prime Farmland)



LEGEND

- Solar Energy Facility
- Proposed Substation (Imperial Irrigation District [IID])
- Prime Farmland Avoided

- Developed
- Farmland of Local Importance
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Other Land



Agricultural Resources

Under Alternative 2, the overall size of the solar energy facility would be reduced by approximately 226 acres by avoiding the development of parcels that contain large areas of Prime Farmland. Under Alternative 2, the majority of the project site that contains Prime Farmland would continue to be used for active agricultural uses. However, this alternative would still include the use of Farmland of Statewide Importance (approximately 59 acres) and Prime Farmland (approximately 184 acres) for the solar facility. Therefore, similar mitigation would be required for this alternative to reduce significant farmland impacts to a less than significant level. Impacts associated with contributing to the conversion of other agricultural lands or otherwise affecting agricultural operations would still occur, but would be slightly less as compared to the proposed project. Compared to the proposed project, this alternative would reduce the significant impacts associated with these agricultural issues.

Air Quality

Under Alternative 2, air emissions during construction would be less than the proposed project because of the reduced site development. As discussed in Section 4.3, Air Quality, the proposed project would not exceed the ICAPCD's 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 project. This alternative would be consistent with existing air quality attainment plans and would not result in the creation of objectionable odors. Compared to the proposed project, while Alternative 2 would result in less air quality impacts, it would likely provide less desirable benefits to overall regional air quality as attributable to the proposed project.

Biological Resources

As discussed in Section 4.4, Biological Resources, burrowing owls were observed within the boundaries of the project site. Although this alternative would reduce the number of burrowing owls that could potentially be directly and indirectly impacted with implementation of the project, this alternative still has the potential to impact burrowing owl on the other portions of the project site. Mitigation would still be required for impacts on burrowing owl; however, the overall number of burrowing owl locations potentially impacted would be less. Impacts on wetlands, migratory corridors, and other wildlife and habitats would be similar to that described for the project. Compared to the proposed project, this alternative would result in a reduction in impacts on biological resources but would still require mitigation. Overall, the impact on biological resources would be less as compared to the proposed project.

Cultural Resources

Based on the results of the records searches, the project site is considered moderately sensitive for the presence of archaeological resources. Under Alternative 2, ground-disturbing activities will extend to depths of 20 feet below the ground surface, similar to the proposed project. As such, this alternative has the potential to disturb previously undocumented cultural resources that could qualify as unique archaeological resources pursuant to CEQA. Mitigation is required to ensure that should unanticipated discovery of cultural resources or human remains be encountered, proper measures

are implemented to ensure these potential impacts are addressed. Compared to the proposed project, this alternative would incur similar impacts on cultural and paleontological resources by virtue that the project site would still be developed with solar uses in the same general location as the proposed project.

Geology and Soils

Under Alternative 2, while the overall project footprint would be reduced, grading and construction of new facilities, such transmission facilities, battery storage, 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 project, this alternative would require the incorporation of mitigation measures identified for the proposed project to minimize these impacts to a less than significant level. Compared to the proposed project, this alternative would result in similar geological and soil impacts.

Greenhouse Gas Emissions

Under Alternative 2, 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 project, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project 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 project, this alternative would not exceed SCAQMD's threshold of 3,000 MTCO₂e. Compared to the proposed project, 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. Because no significant GHG impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, 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 project, this alternative would result in similar hazards and hazardous materials impacts.

Hydrology/Water Quality

Alternative 2 would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious areas on site, although to a lesser degree than the proposed project. Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Similar to the proposed project, no impacts would result from flooding and facilities will not be placed within floodplains. This alternative would result in less of an impact related to hydrology/water quality as compared to the proposed project.

Land Use/Planning

Similar to the proposed project, Alternative 2 would not divide an established community or result in incompatibilities with adjacent agricultural uses. Similar to the proposed project, Alternative 2 would require the approval of a CUP, General Plan Amendment, and Zone Change to maintain consistency with the County's General Plan. As with the proposed project, this alternative would not conflict with any applicable HCP or NCCP. Land use and planning impacts resulting from this alternative would be similar to those identified for the proposed project. Because no significant Land Use/Planning impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Noise and Vibration

As with the proposed project, Alternative 2 would not result in significant noise impacts associated with construction activities. As with the proposed project, 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. Because no significant noise impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Public Services

Alternative 2 would require increased public services, specifically law enforcement and fire protection 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. Like the proposed project, this alternative would be conditioned to provide law enforcement and fire service development impact fees. Therefore, this alternative would result in a similar impact related to public services as the proposed project.

Transportation/Traffic

This alternative would result in a lower level of vehicle and truck trips within the project site as compared to the proposed project. The increase in vehicular traffic was identified as a less than significant impact for the proposed project. In this context, Alternative 2 would not reduce or avoid an impact related to transportation/traffic, and would result in less than significant impacts similar to the proposed project. As with the proposed project, 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 because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Compared to the proposed project, this alternative would result in a similar impact related to transportation/traffic.

Utilities/Service Systems

Similar to the proposed project, Alternative 2 would require water service and energy for the operation of the solar facility. This alternative would allow agricultural operations to continue for a portion of the project site which utilizes more water than solar farm activities. As a consequence, this alternative would result in slightly increased water demands when compared to the proposed project, but would continue to experience desirable benefits related to the reductions in agricultural water



demands. Compared to the proposed project, this alternative would result in a similar impact related to utilities.

Conclusion

Implementation of Alternative 2 would result in reduced impacts for the following environmental issues areas as compared to the proposed project: agricultural resources, air quality, biological resources, and hydrology/water quality. This alternative would not result in any greater environmental impacts when compared to the proposed project.

Comparison of Alternative 2: Reduced Site Acreage Alternative (Avoid Prime Farmland) to Project Objectives

Alternative 2 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 100 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

8.5 Alternative 3: Development within Renewable Energy Overlay Zone

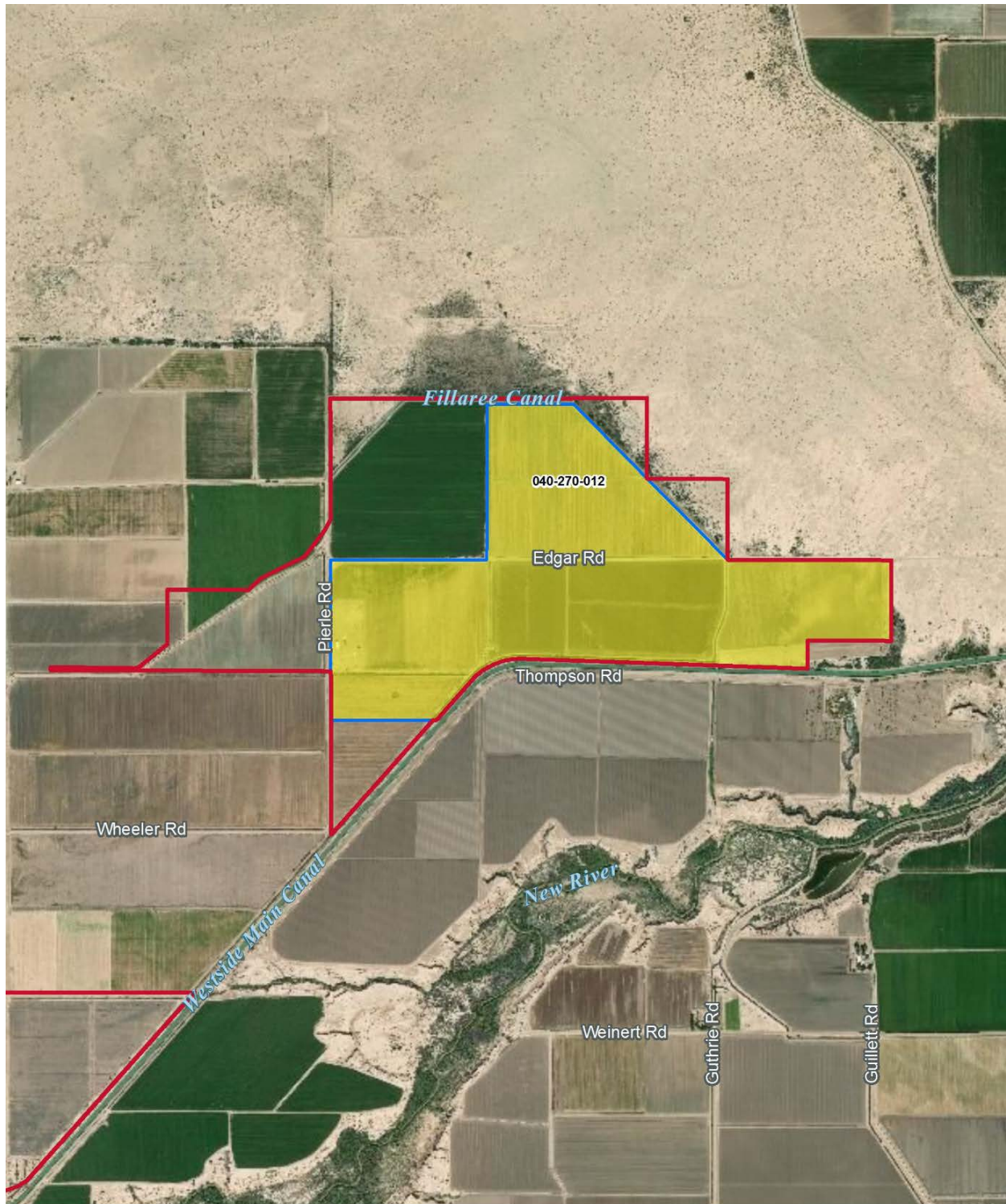
In certain cases, an evaluation of an alternative location in an EIR is necessary. Section 15126(f)(A) of the CEQA Guidelines states, “Key question. The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.”

The purpose of this alternative is to develop the proposed project within the County’s RE Overlay Zone. The RE Overlay Zone is concentrated in areas determined to be the most suitable for the development of renewable energy facilities while minimizing the impact on other established areas.




As shown on Figure 8-2, the Alternative 3 project site is located entirely within the RE Overlay Zone. Alternative 3 encompasses approximately 544 acres of land located on one parcel (APN 040-270-012) approximately 9 miles northeast of the Dixieland area in unincorporated Imperial County. The Alternative 3 project site is designated as Agriculture under the County’s General Plan and zoned A-3 (Heavy Agriculture).

Similar to the proposed project, Alternative 3 will require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone.

Figure 8-2. Alternative 3: Development within Renewable Energy Overlay Zone



LEGEND

-  Renewable Energy Overlay Zone
-  Alternative 3
-  Assessor Parcel



Environmental Impact of Alternative 3: Development within Renewable Energy Overlay Zone

Aesthetics and Visual Resources

The Alternative 3 project site is surrounded by agricultural lands to the south and west and desert lands to the north. This alternative would result in a change in the existing land use at the project site from an agricultural land use to a solar facility. Similar to the proposed project, this would alter the visual character of the project site, both in terms of the on-site features proposed and in the context of the site’s relationship within the currently surrounding agricultural and desert landscape. The Alternative 3 project site is located approximately 4 miles north of the Naval Air Facility El Centro. Because of the proximity of the Naval Air Facility El Centro, there is a potential that this alternative could reflect significant levels of glare or glint upwards in a manner that could affect flight operations. Compared to the proposed project, this alternative could result in greater glare or glint impacts.

Agricultural Resources

As shown in Table 8-1, the Alternative 3 project site contains 32.48 acres of Prime Farmland and 494.71 acres of Farmland of Statewide Importance. Compared to the proposed project, Alternative 3 would reduce the acreages of Important Farmland that would be temporarily converted from agricultural uses to solar farms. However, since this alternative would still convert Prime Farmland and Farmland of Statewide Importance, similar mitigation would be required for this alternative to reduce significant farmland impacts to a less than significant level. Impacts associated with contributing to the conversion of other agricultural lands or otherwise affecting agricultural operations would still occur, but would be less than would occur under the proposed project. Compared to the proposed project, this alternative would reduce the significant impacts associated with these agricultural issues.

Table 8-1. Comparison of Important Farmlands within the Project Site and Alternative 3 Project Site

Important Farmland	Proposed Project	Alternative 3
Prime Farmland	490.64	32.48
Farmland of Statewide Importance	59.05	494.71
Farmland of Local Importance	—	0.59
Unique Farmland	—	0.01
Other Land	5.39	16.71

Air Quality

Under Alternative 3, air emissions during construction would be less than the proposed project because the overall area of disturbance would be reduced by approximately 11 acres. As discussed in Section 4.3, Air Quality, the proposed project would not exceed the ICAPCD’s 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 project. This alternative would be consistent with

existing air quality attainment plans and would not result in the creation of objectionable odors. Compared to the proposed project, while Alternative 3 would result in less air quality impacts, it would likely provide less desirable benefits to overall regional air quality as attributable to the proposed project.

Biological Resources

Under this alternative, potential impacts on burrowing owl locations identified within the project site and indirect impacts associated with burrowing owls in the adjacent drainage canals would be avoided as compared to the proposed project. However, the Alternative 3 site is located on agricultural fields, which provide habitat for burrowing owl. Irrigation canals and drains are commonly used as burrowing nesting sites in the Imperial Valley. This alternative would also require the construction of supporting infrastructure that has the potential to result in biological impacts. Compared to the proposed project, this alternative would result in similar biology impacts.

Cultural Resources

This alternative would require the construction of supporting infrastructure that has the potential to result in cultural resources impacts. While this alternative may avoid the specific impacts on the proposed project site, this alternative would also require the construction of supporting infrastructure that has the potential to result in cultural resources impacts. Compared to the proposed project, although cultural resources would be avoided to the extent feasible, depending on the route of the proposed gen-tie line, this alternative could result in greater impacts on cultural resources.

Geology and Soils

Grading and construction of new facilities, such as transmission facilities and solar facilities, would still occur under this alternative. Similar to the proposed project, this alternative would require the incorporation of mitigation measures identified for the proposed project to minimize these impacts related to geology and soils to a less than significant level. Compared to the proposed project, this alternative would result in similar geology and soil impacts.

Greenhouse Gas Emissions

Under Alternative 3, the overall project footprint would be reduced by approximately 11 acres thereby contributing to reductions in GHG emissions during project construction. However, as a consequence of the reduced size of the project, this alternative would result in a reduced power production capacity as compared to the proposed project; hence, the overall benefits of the project 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 SCAQMD's threshold of 3,000 tCO₂e. Compared to the proposed project, 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. Because no significant GHG impact has been identified associated with the proposed project, this alternative would not avoid or reduce a significant impact related to this issue and therefore, it is considered similar to the proposed project.

Hazards and Hazardous Materials

Depending on the specific locations and conditions of the Alternative 3 project site that would need to be developed, certain hazards and hazardous materials may be encountered. The Alternative 3 project site may need to be remediated before implementation of the alternative. Overall, the degree of impact associated with hazards and hazardous materials would likely be similar to the proposed project.

Hydrology/Water Quality

Alternative 3 would result in modifications to the existing drainage patterns and the volume of storm water runoff, as this alternative would introduce impervious area on site, although to a lesser degree than the proposed project. Because the overall project footprint would be reduced, this alternative would realize a minor reduction in the corresponding impacts on hydrology and on-site drainage; however, the same mitigation measures would be applicable to this alternative. Similar to the proposed project, no impacts would result from flooding and facilities will not be placed within floodplains. Compared to the proposed project, this alternative would result in fewer hydrology/water quality impacts.

Land Use/Planning

Similar to the proposed project, Alternative 3 will require approval of a CUP to allow for the construction and operation of a solar project. Compared to the proposed project, the Alternative 3 project site is located within the RE Overlay Zone and would not require a General Plan Amendment or Zone Change to include/classify the project site into the RE Overlay Zone. Nonetheless, with approval of all discretionary requests, both the proposed project and this alternative would be consistent with the land use and zoning designations at the project site, and neither project would conflict with any applicable land use plans, policies or regulations. Accordingly, because both the proposed project and this alternative would require approval of discretionary requests in order to maintain consistency with all applicable land use plans, impacts from Alternative 3 would be similar to those resulting from the proposed project.

Noise and Vibration

Based on a review of Google Earth imagery, there are no residences or schools located within or immediately adjacent to the Alternative 3 project site. Therefore, as with the proposed project, Alternative 3 would not result in significant noise impacts associated with construction activities. As with the proposed project, 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. Compared to the proposed project, this alternative would result in similar noise impacts.

Public Services

Alternative 3 would require increased public services, specifically law enforcement and fire protection services. While the overall project footprint would be slightly smaller (reduced by approximately 11 acres), the impacts of this alternative to public services and associated service ratios would be similar. Like the proposed project, this alternative would be conditioned to provide law enforcement and fire service development impact fees. Therefore, this alternative would result in a similar impact related to public services as the proposed project.

Transportation/Traffic

This alternative would result in a similar level of vehicle and truck trips as compared to the proposed project. However, the increase in vehicular traffic was identified as a less than significant impact for the proposed project. In this context, Alternative 3 would not reduce or avoid an impact related to transportation/traffic, and would result in less than significant impacts similar to the proposed project. As with the proposed project, 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, substantially increase hazards because of a design feature, result in inadequate emergency access, or conflict with public transit, bicycle, or pedestrian facilities. Compared to the proposed project, this alternative would result in a similar impact related to transportation/traffic.

Utilities/Service Systems

Similar to the proposed project, Alternative 3 would require water service and energy for the operation of the solar facilities. Compared to the proposed project, this alternative would result in a similar impact related to utilities.

Conclusion

Implementation of Alternative 3 would result in reduced impacts for the following environmental issues areas as compared to the proposed project: agricultural resources, air quality, and hydrology/water quality. As shown in Table 8-2, this alternative would result in greater cultural resources impacts compared to the proposed project.

Comparison of Alternative 3: Development within Renewable Energy Overlay Zone to Project Objectives

Alternative 3 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 100 MW of renewable solar energy, as there would be less area available for the placement of PV structures.

8.6 Environmentally Superior Alternative

Table 8-2 provides a qualitative comparison of the impacts for each alternative compared to the proposed project. As noted in Table 8-2, 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 project. 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: Reduced Site Acreage (Avoid Prime Farmland) because it would reduce impacts for the following environmental issues areas as compared to the proposed project: agricultural resources, biological resources, cultural resources, greenhouse gas emissions (construction phase only), and hydrology/water quality.



Table 8-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Aesthetics and Visual Resources	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Agricultural Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact
Air Quality	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Less Impact
Biological Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact
Cultural Resources	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Greater Impact
Geology and Soils	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Similar Impact

Table 8-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Greenhouse Gas Emissions	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact. Would not achieve GHG emission reductions to the extent of the proposed project as less renewable energy would be produced
Hazards and Hazardous Materials	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Hydrology/ Water Quality	Less than Significant with Mitigation	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact (Avoid)	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant with Mitigation <i>Comparison to Proposed Project:</i> Less Impact
Land Use/Planning	No Impact	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Noise and Vibration	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Public Services	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact



Table 8-2. Comparison of Alternative Impacts to Proposed Project

Environmental Issue Area	Proposed Project	Alternative 1: No Project/No Development	Alternative 2: Reduced Site Acreage (Avoid Prime Farmland)	Alternative 3: Development within Renewable Energy Overlay Zone
Transportation/ Traffic	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact
Utilities/Service Systems	Less than Significant	<i>CEQA Significance:</i> No Impact <i>Comparison to Proposed Project:</i> Less Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact	<i>CEQA Significance:</i> Less than Significant <i>Comparison to Proposed Project:</i> Similar Impact

CEQA = California Environmental Quality Act; GHG = greenhouse gas

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10 EIR Preparers and Persons and Organizations Contacted

10.1 EIR Preparers

This EIR was prepared for the County of Imperial by HDR, at 8690 Balboa Avenue, Suite 200, San Diego, CA 92123. The following professionals participated in its preparation:

County of Imperial

Jim Minnick, Planning & Development Services Director

Michael Abraham, AICP, Assistant Planning & Development Services Director

David Black, Planner IV

HDR

Tim Gnibus, Principal

Sharyn Del Rosario, Project Manager

Shelly Austin, Senior Biologist

Ronell Santos, Environmental Planner

Anders Burvall, Senior GIS Analyst

Jade Dean, GIS Analyst

Renee Stueber, Document Production Administrator

HDR Engineering was assisted by the following consultants:

ASM Affiliates, Inc. (Cultural Resource Inventory)

2034 Corte del Nogal

Carlsbad, CA 92011

Chen Ryan (Traffic Impact Study)

3900 5th Avenue, Suite 210

San Diego, Ca 92103

DuBose Design Group, Inc. (Water Supply Assessment)

1065 W. State Street

El Centro, CA 92243

Environmental Management Associates (Air Pollutant Emission Assessment, Land and Evaluation and Site Assessment)

10100 Santa Monica Boulevard, Suite 300
Los Angeles, CA 90067

GS Lyon Consultants, Inc. (Phase I Environmental Site Assessment)

780 N. 4th Street
El Centro, CA 92243

Landmark Consultants, Inc. (Geotechnical Report)

780 N. 4th Street
El Centro, CA 92243

Stantec Consulting Services Inc. (Biological Resources Technical Report)

290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

10.2 Persons and Organizations Contacted

The following persons and organizations were contacted in preparation of this document:

VEGA SES, LLC

Jurg Heuberger
604 Sutter Street
Folsom, CA 95630