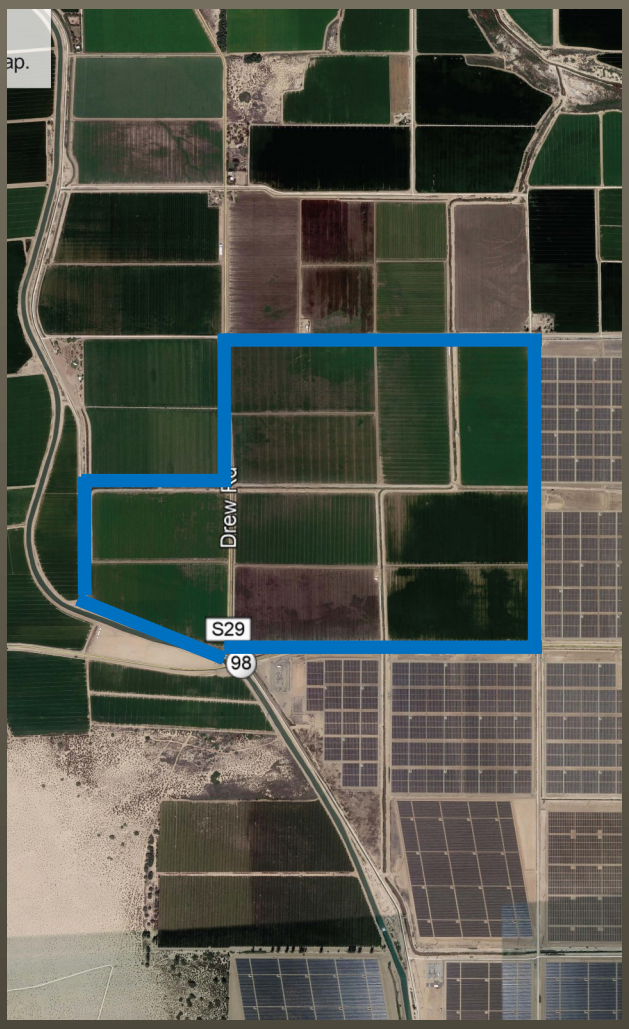
Drew Solar Project

SCH. No. 2018051036



DRAFT ENVIRONMENTAL IMPACT REPORT

Prepared for

IMPERIAL COUNTY CALIFORNIA 1907

May 2019

Prepared by

egi
ericsson-grant inc.

DRAFT
ENVIRONMENTAL IMPACT REPORT

for the

DREW SOLAR PROJECT

SCH. No. 2018051036

GPA#17-0006/ ZC#17-0007/ PM#02478
CUP#17-0031; CUP#17-0032; CUP#17-0033; CUP#17-0034; CUP#17-0035 & CUP#18-0001
V#17-0003, IS#17-0035

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May 2019

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2016 RTP/SCS	2016-2040 Regional Transportation Plan/Sustainable Communities Strategy
µg/m^3	micrograms per cubic meter
A-2	General Agriculture
A-2-R	General Agriculture, Rural Zone
A-3	Heavy Agriculture
AASHTO	American Association of State Highway and Transportation Officialst
AB	Assembly Bill
AC	Alternating Current
AADT	Annual Average Daily Trips
ADT	Average Daily Trips
AF	acre-feet
AF/Y	acre-feet per year
AG	Agriculture
AGL	above ground-level
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
ANSI	American National Institute Standards
AOU	American Ornithologists' Union
APCD	Air Pollution Control District
APE	Area of Potential Effect
APN(s)	Assessor's Parcel Number(s)
AQIA	Air Quality Impact Assessment
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ASTM	American Society for Testing Materials
BACT(s)	Best Available Control Technology(ies)
BAT/BCT	Best Available Technology/Best Conventional Technology
BAU	Business as Usual
BCT	Best Conventional Technology
BLM	Bureau of Land Management
BMP(s)	Best Management Practice(s)
BUOW	Burrowing owl
°C	Degrees Celsius
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMOd	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalOSHA	California Occupational Safety and Health Administration
CalRecycle	Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASIO	California Independent System Operator

LIST OF ACRONYMS

CBC	California Building Code
CCAs	community choice aggregators
CCC	California Coastal Commission
CCR	California Code of Regulations
CCDEH	California Conference of Directors of Environmental Health
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	Methane
CHRIS	California Historical Resources Information System
CIWMA	California Integrated Waste Management Act
CIWMB	California Integrated Waste Management Board
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon dioxide
CO_2e	Carbon dioxide equivalents
CPUC	California Public Utilities Commission
CPV	Concentrated photovoltaic
CRHP	California Register of Historic Places
CRHR	California Register of Historical Resources
CRPR	California Registered Plant Ranks
CSE	Centinela Solar Energy
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
Db(A)	A-weighted Sound Pressure Level
dB Leq	decibel equivalent sound level
DC	Direct Current
Draft EIR	Draft Environmental Impact Report
DHS	Department of Health Services
DNE	Does not exist
DOC	Department of Conservation
DOT	Department of Transportation

DPM	Diesel particulate matter
DPR	Department of Parks and Recreation
DRECP	Desert Renewable Energy Conservation Plan
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EA	Environmental Assessment
EB	eastbound
EDP	Equitable Distribution Plan
EGI	Ericsson-Grant, Inc.
EIR	Environmental Impact Report
EMF	Electromagnetic field
EO	Executive Order
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
ESA	Federal Endangered Species Act
^{o}F	Degrees Fahrenheit
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FPRP	Fire Prevention and Response Plan
FSZ	Farmland Security Zone
FR	Federal Register
FTA	Federal Transit Authority
FTHL	flat-tailed horned lizard
GCC	global climate change
GCP	General Construction Permit
GHG	greenhouse gases
GIS	Geographic Information Systems
GO	General Order
GPA	General Plan Amendment
GPS	Global Positioning System
G-S	Government/Special
GW	Gigawatt
GWh	Gigawatt hours
GWP	global warming potential
H_2O	Water vapor
H_2S	hydrogen sulfide
HCM	Highway Capacity Manual

HCP	Habitat Conservation Plan
HFCs	Hydroflourocarbons
HMMP	Hazardous Materials Management Plan
hp	horsepower
HVAC	Heating, Ventilation and Air Conditioning
HWCL	Hazardous Waste Control Law
I-8	Interstate 8
ICAPCD	Imperial County Air Pollution Control District
ICFD	Imperial County Fire Department
ICPDSD	Imperial County Planning and Development Services Department
ICS	Incident Command System
ICSO	Imperial County Sheriff's Office
ID	Identification
IEEE	Institute of Electrical and Electronic Engineers
IGR	Intergovernmental Review
IID	Imperial Irrigation District
IOUs	independently owned utilities
IRF	Intermediate Regional Flood
IWSP	Interim Water Supply Policy
IV	Imperial Valley
KOP	Key Observation Point
kV	kilo-volt
kW	Kilo-watt
LBP	Lead based paint
lbs	pounds
lbs/day	pounds per day
LCC	Land Capability Classification
L_{min}	Minimum Sound Level
L_{max}	Maximum Sound Level
LE	Land Evaluation
Leq	Equivalent sound level
LESA	Land Evaluation Site Assessment Model
LGIA	Large Generator Interconnection Agreement
LOS	Level of Service
LRA	Local Responsibility Area
M-2	Medium Industrial
MBTA	Migratory Bird Treaty Act
MDS	Material Data Sheet
mg/L	milligrams per litre
mg/kg/day	milligrams per kilogram per day
MLD(s)	most likely descendant(s)
MMRP	Mitigation Monitoring and Reporting Program
MT	metric tons

MMT	millions of metric tons
MMTCO2e	million metric ton of carbon dioxide equivalent
mph	miles per hour
MT CO	metric tons of carbon dioxide
MRZ	Mineral Resource Zone
msl	mean sea level
MUN	municipal and domestic supply
MT	metric tons
MW	Megawatts
MWAC	megawatt alternating current
MWh	Megawatt hours
NA	Not Available or Not Applicable
NAAQS	National Ambient Air Quality Standards
NABA	North American Butterfly Association
NAF	Naval Air Facility
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NEMA	National Electric Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electric Safety Code
NFIP	National Flood Insurance Program
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Nitrogen Oxides
NO_2	Nitrogen Dioxide
N_2O	Nitrous Oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
NWP(s)	Nationwide Permit(s)
O&M	Operations and Maintenance
O_3	Ozone
OAQPS	Office of Air Quality Planning and Standards
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OHWM	ordinary high water mark
OPR	Office of Planning and Research

OSHA	Occupational Safety and Health Administration
OWTS	On-site wastewater treatment systems
PA	Programmatic Agreement
Pb	lead
PCBs	polychlorinated biphenyls
pci/l	Picocuries per litre
pcphpl	Passenger cars per hour per lane
PCS(s)	Power Conversion Station(s)
PG&E	Pacific Gas & Electric
PM	Parcel Map
PM10	Particulate Matter Less than 10 microns
PM2.5	Fine Particulate Matter
PPA	Power Purchase Agreement
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PV	Photovoltaic
QSA	Quantification Settlement Agreement
QSD	Qualified SWPPP Developer
QSP	Qualified SWPPP Practitioner
RCRA	Resource Conservation and Recovery Act
REC(s)	Recognized Environmental Concern(s)
ROG(s)	reactive organic gas(es)
ROW	right-of-way
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SA	Site Assessment
SAA	Streambed Alteration Agreement
SB	Senate Bill
SCAG	Southern California Association of Governments
SCENIHR	Scientific Committee on Emerging and Newly Identified Health Risks
SCH. No.	State Clearinghouse Number
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategies
SDG&E	San Diego Gas & Electric
SDNHM	San Diego Natural History Museum
SDS	Safety Data Sheet
SEMS	Standardized Emergency Management System
SF_6	sulfur hexafluoride
SHMA	Seismic Hazards Mapping Act
SIP(s)	State Implementation Plan(s)

SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
SPCC	Spill Containment, Countermeasure and Control
SR	Sensitive receptor
SR 98	State Route 98
SRA	State Responsibility Area
SRRE	Source Reduction and Recycling Element
SSAB	Salton Sea Air Basin
SSC	Species of Special Concern
SVP	Society for Vertebrate Paleontology
SWMP	Stromwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWS	Solid Waste Site
TAC(s)	Toxic Air Contaminants
TMDL	total maximum daily load
TSS	total suspended solids
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
V	volt
V/C	Volume to Capacity Ratio
VOC	Volatile Organic Compound
VPD	Vehicles Per Day
WB	westbound
WDID	Waste Discharge Identification
WEAP	Worker Environmental Awareness Program
WS	Waters of the State
WSA	Water Supply Assessment
WSS	Web Soil Survey
WUS	Waters of the U.S.
ZOI	Zone of Influence

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EXECUTIVE SUMMARY

ES.1 PROJECT BACKGROUND

For the last two decades, California has emerged as a leader in promoting policies designed to grow the State's portfolio of renewable energy generation and use. Most recently, California passed two bills further increasing the State's commitment to reductions in greenhouse gas emissions through reductions in fossil fuels and increases in renewable energy: Senate Bill (SB) 350 requiring retail sellers and publicly owned utilities to procure half of their electricity from renewable sources by 2030. This requirement is known as the Renewable Portfolio Standard or "RPS." In 2016, the Legislature passed SB 32, which codifies a 2030 greenhouse gas emissions reduction target of 40 percent below 1990 levels. According to Greentech Media, reaching such high amounts of variable renewable generation all but requires a wider build-out of storage capacity to give the grid more control over when that wind and solar power is consumed. The California legislature has passed several bills recently to help expand and expedite the amount of energy storage that is connected to California's electric grid. Newly signed AB 2861 authorizes the CPUC to create an independent dispute-resolution panel, staffed by electrical systems experts. Their job is to evaluate a disputed interconnection fee, gathering input from both sides and ruling on the case within 60 days. AB 2868 is aimed at increasing the overall size of the storage market by directing utilities to deploy up to 500 megawatts of additional storage capacity, of which no more than a quarter can be behind-the-meter. AB 33 declares the legislature's wish that the CPUC pay extra attention to long-duration storage for the grid. "The commission, in coordination with the Energy Commission, shall, as part of a new or existing proceeding, evaluate and analyze the potential for all types of long-duration bulk energy storage resources to help integrate renewable generation into the electrical grid," the law says. The CPUC's ruling comes after years of work jump-started by a 2010 state law, Assembly Bill 2514, which originally called for the statewide energy storage mandate of 1.3 GW to enable a "market transformation" for these new technologies. On June 10, 2013, CPUC Commissioner Peterman's Assigned Commissioner's Ruling stated "Energy storage has the potential to transform how the California electric system is conceived, designed, and operated. In so doing, energy storage has the potential to offer services needed as California seeks to maximize the value of its generation and transmission investments: optimizing the grid to avoid or defer investments in new fossil-power plants, integrating renewable power, and minimizing greenhouse emissions."

The Applicant is proposing to construct, operate and decommission a solar generation and energy storage facility on approximately 855 gross and 762.8 net farmable acres (inclusive of solar field, energy storage, project substation(s), roads, retention basins, etc.) located in southern Imperial County, California. A fundamental challenge posed by solar energy is that peak supply does not consistently coincide with peak demand times (e.g., 5:00 p.m. – 9:00 p.m.). Energy storage is a rapidly developing technology that can help balance supply and demand by capturing and storing renewable energy generated during daylight hours for peak evening demand. Energy storage, where available, reduces reliance on fossil fuels and furthers California's RPS policies by providing for better integration of locally-sourced solar and wind generation and RPS requirements.

The ICPDS Department received the following applications submitted by the Applicant dated December 28, 2017, January 8, 2018, July 5, 2018, July 31, 2018, August 28, 2018, January 22, 2019:

- Amendment (GPA#17-0006) to the Imperial County General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site;
- Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project Site;

- Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project Site (APNs: 052-170-039 & 052-170-067), including APN 052-170-030 to the north of the Project Site as part of the Parcel Map;
- Five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034 and CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02;
- One CUP (CUP#18-0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 & A-3). Said energy storage would be removed at the time of removal of associated solar facility;
- Variance (V#17-0003) for power pole structures that are over 120 feet in height in the Project Area including the existing Drew Switchyard. With approval of the Variance, the proposed structures could be up to 180 feet in height; and
- Up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another.
- A Development Agreement between the County and the Applicant to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Pursuant to the terms of the Development Agreement, thereafter, the CUPs would be valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

The Project will use PV technology to convert sunlight directly into direct current (DC) electricity. The process starts with photovoltaic cells that make up photovoltaic modules (environmentally sealed collections of photovoltaic cells). PV modules are generally non-reflective. Groups of photovoltaic modules are wired together to form a PV array. The DC produced by the array is collected at inverters (power conversion devices) where the DC is converted to AC. The voltage of the electricity is increased by a transformer at each power conversion station to a medium voltage level (typically 34.5 kilovolts [kV]). Medium voltage electric lines (underground and/or overhead) are used to collect the electricity from each medium voltage transformer and transmit it to the facility substation(s), where the voltage is further increased by a high voltage transformer to match the electric grid for export to the point of interconnection at the Drew Road Switchyard. Disconnect switches, fuses, circuit breakers, and other miscellaneous equipment will be installed throughout the system for electrical protection and operations and maintenance purposes.

This EIR is being prepared to analyze the potential environmental impacts of the Project and fulfill the requirements of the California Environmental Quality Act (CEQA).

ES.2 PROJECT OVERVIEW

The Project is a proposal to build an approximately 100-mega-watt (MW) alternating current (AC) solar generation facility using photovoltaic (PV) technology. The entire Project is located on land owned by the Imperial Irrigation District (IID). The Project's two generation interconnection (Gen-Tie) transmission lines are proposed from the south end of the Project site extending south across Drew Road and State

Route (SR) 98 connecting to the existing Drew Switchyard located on APN 052-190-039.

The Proposed Project consists of a photovoltaic (PV) solar facility capable of producing approximately 100 MWAC on approximately 855 gross and 762.8 net farmable acres. The ultimate energy output is dependent on several variables, including off-take arrangements and the evolving efficiency of PV panels, so it is possible that the Project could generate more or less than 100 MW. The Project may be constructed at one time over approximately 18 months, or it may be built out over an approximately 10-year period. A conceptual phasing configuration is shown in Figure 2.0-3. A Site Plan is provided in Figure 2.0-4. The Applicant is requesting that a Conditional Use Permit (CUP) be issued for each of the five phases of the Project as well as an additional sixth CUP for Phase 5 for energy storage in the southwesterly portion of the Project Area. Project phasing allows utilities greater flexibility in obtaining renewable energy to meet ratepayer needs by allowing utilities to procure smaller energy quantities phased over time.

The Applicant has filed an application for a General Plan Amendment (GPA) for amendment of the Renewable Energy & Transmission Element to add the Project site to the RE Overlay Zone as an Island Overlay for the Project site; a Zone Change to add the RE Overlay to the Project site, a Variance and six CUPs and a Parcel Map. Each of the six CUPs may include an Operations and Maintenance (O&M) building or buildings. The Project may also include additional auxiliary facilities such as raw water/fire water storage, treated water storage, evaporation ponds, storm water retention basins, water filtration buildings and equipment, and equipment control buildings, septic system(s) and parking. The Project will also include electric and vehicular crossings of State facilities, IID facilities and County facilities. The Project crossings will not interfere with the purpose of these Agencies' facilities (e.g., where a drain flows, the Project crossing will still allow the drain to flow). Each phase of the Project may have its own energy storage component as well as energy storage being housed within the inverters.

ES.3 PURPOSE AND NEED

Section 15124(b) of the CEQA Guidelines requires that an EIR include a statement of objectives sought by the proposed Project. These objectives identify the underlying purpose of the project and provide a basis for identification of alternatives evaluated in the EIR. A clearly written statement of objectives allows the lead agency to develop a reasonable range of alternatives to evaluate in the EIR and aids the decision-makers in preparing findings or a statement of overriding considerations, if necessary.

Demand for new forms of renewable electric energy continues to grow based on three factors. First, total electricity demand continues to grow as a result of population growth, economic growth and new applications offset only, in part, by energy efficiency programs. The 2010 United States Energy Information Administration (EIA) Annual Energy Outlook ("reference case") forecast is for a 30 percent increase in total demand (from 3,873 billion kilowatt hours to 5,021 billion kilowatt hours, annually), between the years 2008 and 2035. Second, new generation facilities are required to not only meet this demand, but to replace the output of aging generation facilities which are to be retired during this period. Third, driven by federal incentives, regional greenhouse gas reduction targets, state renewable energy portfolio standards (RPS) requirements, and potential legislation, an increasingly greater portion of new generation will need to be supplied in the form of renewable energy. The EIA forecast for the period from 2008 to 2035 is for 41 percent of growth in generation to come from non-hydro renewables.

The national trend in renewable energy is particularly evident in the West, the fastest growing region in the United States. Many Western states have adopted renewable energy standards and greenhouse gas (GHG) reduction goals. California is a national leader in requiring a significant proportion of electricity to come from renewable sources. The 2010 requirement that 20 percent of electricity sales come from

renewable energy was increased to 33 percent by 2020. With California's 33 percent mandate, combined with other mandated RPS requirements and regional sales growth, the total renewable energy sales for the United States portion of the Western Electricity Coordinating Council region has been estimated at close to 150,000 Gigawatt hours (GWh) by 2020 (not including Idaho, Utah and Wyoming). The proposed Project will help California meet its statutory and regulatory goals for increasing renewable power generation and use.

The Gen-Tie lines component of the proposed Project would provide the needed transmission capacity to connect the CUPs of the Drew Solar Project with the Drew Switchyard. Both gen-tie lines may be underground or one may be underground and one above-ground.

The Drew Solar Project qualifies as an Eligible Renewable Energy Resource as defined by the California Public Utilities Code and would assist the state in meeting current and planned goals for renewable energy development and use. The California Energy Commission (CEC) pre-certified the Drew Solar Project as an eligible renewable energy resource under the RPS and assigned it CEC-RPS identification (ID) number 63896.

ES.4 OBJECTIVES

Pursuant to CEQA Section 15124(d), objectives have been identified for the proposed Project. A primary objective is to develop a project that will produce public benefits for Imperial County, the Southern California Region, and the State of California. The following is a list of key public benefits that are fundamental to the Project's objectives:

- To create significant lease revenue for Imperial Irrigation District ("IID") as the property owner, a public agency, which will benefit the citizens of Imperial County.
- To support the Imperial County General Plan renewable energy policies and objectives.
- To locate the Project at a location along the existing transmission system which has available capacity to deliver electricity to major load centers in California.
- To meet the terms and requirements of any Power Purchase Agreement (PPA) and Large Generator Interconnection Agreement ("LGIA") that the Applicant has or may enter into and that require it to be interconnected directly to the CAISO grid at the existing Drew Switchyard.
- To deploy a technology that is safe, readily available, efficient, and environmentally responsible.
- To generate power, and store energy in an efficient manner and at a cost that is competitive in the renewable market on sites controlled by the applicant.
- To provide an additional source of renewable energy to assist the State of California in achieving and exceeding the RPS.
- To maximize local construction jobs for a variety of trades thereby helping maximize the reduction of unemployment in the construction sector.
- To locate the Project in an area that ranks among the highest in solar resource potential in the nation, as measured by the CEC.
- To minimize potential impacts to aesthetics, health and safety and other potential environmental impacts:
  - o Locating the Project on disturbed land.
  - o Grouping or collocating the Project's proposed electrical interconnection facilities with existing or proposed electrical interconnection facilities (consistent with County conditions on

similar solar generation projects), to the extent that such grouping/collocation can be accommodated.

- o Utilizing existing infrastructure (switchyards, transmission lines, roads, and water sources) where feasible to locate the project proximate to existing electric interconnection and transmission systems in Imperial County with capacity to deliver electricity to major load centers in California.

- To diversify Imperial County's economic base.
- To provide tax revenue through sales, use and property taxes generated by development within Imperial County.

ES.5 ALTERNATIVES

This EIR considered two alternatives in addition to the proposed project:

ALTERNATIVE 1 – REDUCED PRIME FARMLAND ALTERNATIVE

This alternative would exclude the portion of the proposed Project west of Drew Road within (CUP#17-0035 and CUP#18-0001) that is Prime Farmland and would reduce potential impacts to 39.5 acres of Prime Farmland.

ALTERNATIVE 2 – NO PROJECT ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(1) requires that a No Project Alternative be analyzed in order to allow the decision-makers to compare the impacts of approving a proposed Project with the impacts of not approving the proposed Project. Under the No Project Alternative, the proposed Drew Solar Project would not be developed. No GPA, Zone Change, Variance or CUP applications would be approved. The Project site could remain in its existing condition as agricultural land owned by the IID.

ES.6 SUMMARY OF IMPACTS

Table ES-1 summarizes the environmental impacts resulting from the proposed project pursuant to CEQA Guidelines Section 15123(b)(1).

TABLE ES-1
SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
AESTHETICS			
Adverse Effect on Scenic Vista **Impact 4.1.1** The Project Area is not considered a scenic vista nor does it contain any outstanding aesthetic features. Therefore, this impact is considered **less than significant** under both the Full-Buildout and Phased CUP scenarios.	LTS	None required.	LTS
Degrade Existing Visual Character or Quality of the Site and its Surroundings **Impact 4.1.2** The proposed Project would convert agricultural fields to a solar energy generation and storage facility thereby replacing flat crops with man-made structures. The Project would not significantly alter the overall character of the Project Area which is currently characterized by agricultural fields and solar energy facilities. Very few residences are in the area and agricultural land is not considered a significant visual resource. Therefore, impacts associated with changes to the existing visual character or quality of the site are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**	LTS	None required.	LTS

= Less than Significant
= Less than Cumulatively Considerable
Potentially Significant
Cumulatively Considerable
Significant and Unavoidable
No Impact

TABLE ES-1
SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
New Source of Substantial Light or Glare **Impact 4.1.3** The proposed Project includes non-reflective PV panels which are not anticipated to create glare. Likewise, the proposed lighting system would be designed to provide minimum illumination. Therefore, impacts associated with creation of substantial light and glare are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**	LTS	None required.	LTS

LTS = Less than Significant
LCC = Less than Cumulatively Considerable
PS = Potentially Significant
CC = Cumulatively Considerable
SU = Significant and Unavoidable
NI = No Impact

TABLE ES-1
SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Cumulative Visual and Light and Glare Impacts **Impact 4.1.4** Implementation of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the vicinity of the Project Site would not significantly alter the overall character of the Project Area which is currently characterized by agricultural fields and solar generation facilities. Very few residential homes are in the area nor are there any scenic resources within the Project viewshed. Potential visual impacts by other cumulative projects would be subject to review and approval by the County on a project-by-project basis. Therefore, the Project's contribution to cumulative aesthetics, light and glare impacts is considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

LTS = Less than Significant
LCC = Less than Cumulatively Considerable
PS = Potentially Significant
CC = Cumulatively Considerable
SU = Significant and Unavoidable
NI = No Impact

TABLE ES-1
SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
LAND USE			
Cause a Significant Environmental Impact due to a Conflict with Any Land Use Plan, Policy, or Regulation **Impact 4.2.1** Upon approval of the requested GPA, one ZC, one Parcel Map, six CUPs, one Variance and up to five Lot-Tie Agreements and a Development Agreement, the proposed Project would be consistent with the General Plan and Land Use Ordinance under both the Full-Buildout Scenario and Phased CUP Scenario. This is considered a **less than significant impact** under both the Full Build-out Scenario and Phased CUP Scenario**.**	LTS	None required.	LTS

LTS = Less than Significant
LCC = Less than Cumulatively Considerable
PS = Potentially Significant
CC = Cumulatively Considerable
SU = Significant and Unavoidable
NI = No Impact

TABLE ES-1
SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Cumulative Conflicts with Applicable Land Use Plans, Policies, or Regulations **Impact 4.2.2** Development of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the region would not incrementally cause a significant environmental impact due to a conflict with applicable land use plans, policies and regulations. Each CUP Area would be required to be overall consistent with the applicable plans, policies and regulations. Thus, environmental impacts associated with conflicts with applicable land use plans, policies and regulations are considered **less than cumulatively considerable** under both the Full Build-out Scenario and Phased Build-out Scenario.	LCC	None required.	LCC

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TRANSPORTATION			
Conflict with Applicable Plan – Existing Year 2017 Plus Project Construction Conditions **Impact 4.3.1** Implementation of the proposed Project would add traffic to existing traffic volumes on Project study area intersections, roadway segments and freeway segments during (Year 2017) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** for (Year 2017) with Project construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Conflict with Applicable Plan – Near-Term (Year 2019) With Project **Impact 4.3.2** Implementation of the proposed Project would add traffic to existing traffic volumes on the Project study area intersections, roadway segments and freeway segments during Near-Term (Year 2019) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** under Near-Term (Year 2019) with Project Conditions under both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Conflict with Applicable Plan – Long-Term (Year 2027) Conditions **Impact 4.3.3** Implementation of the proposed Project would add traffic to existing traffic volumes on Project study area intersections, roadway segments and freeway segments during Long-Term (Year 2019) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** under Mid-Term (Year 2027) With Project conditions under both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Increase Hazards Due to a Geometric Design Feature – Driveways and Travel Speeds **Impact 4.3.4** Implementation of the proposed Project would not require provision of left-turn lanes at Project driveways to allow access to any of the CUPs. No geometric design features are proposed that would result in hazards. Likewise, area roadways are currently traveled by farm equipment similar in size and speed to construction equipment necessary for the proposed Project. Therefore, impacts resulting from an increase in hazards due to a geometric design feature or an incompatible use are considered **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.5** Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	PS	**MM 4.3.5a All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)** The Project contractor shall utilize SR 98 for all equipment deliveries. Employee and vendor routes to each CUP shall be limited to SR 98, Drew Road, Pulliam Road and Kubler Road, unless improvements are made to other county roads leading to individual CUP sites in advance of development of each CUP. **MM 4.3.5b All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)** The CUP owner(s) shall limit the Project's construction traffic to paved County roadways. In the event the Applicant's construction traffic requires the use of unpaved County roadways, the Applicant shall mitigate those County unpaved roadways in accordance with ICAPCD Rule 805. In addition to complying with Rule 805, if 50 vehicle trips per day (VPD) (cumulative from public and project use) are triggered by the project on any single County unpaved roadway, the Applicant shall provide for the future maintenance cost of the affected roadway for the full term of the CUP which triggered the increase beyond the 50 VPD threshold.	LTS

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Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.5** Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	PS	**MM 4.3.5c All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)** As each CUP may be constructed individually and independently, the CUP owner(s) shall improve the roads per the approved haul route study. If the CUP owner(s) has already improved the roads that will be utilized by the next CUP to start construction, then no new road improvements are required. **MM 4.3.5d All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)** Construction traffic shall prioritize ingress and egress from SR 98. In the event project construction traffic utilizes County roads, a fair share shall be paid per the approved haul route study, and the Developer will be required to repair any damages caused to County roads by construction traffic during construction and maintain them in safe conditions. The Imperial County Public Works Department/Road Commissioner shall have final authority as to the fair share percentage and the final payment amounts based on the final and approved access points in the project's grading and improvement plans. Fair share shall be paid in full prior to Issuance of grading, building and encroachment permits.	LTS

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Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.5** Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	PS	**MM 4.3.5e CUP#17-0031** Fair share payments shall be paid per the approved haul route study as approved by Imperial County Public Works Department prior to issuance of grading, building and encroachment permits. **MM 4.3.5f CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001** Prior to issuance of final Certificate of Occupancy, CUP owner shall be responsible for repairing any damage caused to County roads and bridges it utilizes via improvements as determined by the County Road Commissioner based on the final and approved access points in the Project's grading and improvement plans.	LTS

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Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.5** Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	PS	**MM 4.3.5g CUP#17-0033** Fair share payments shall be paid for 2,800 feet of asphalt paving required on Pulliam Road north of SR 98 or as approved by ICDPW prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans. Fair share payments shall be paid for 1,600 feet of asphalt patching required on Kubler Road west of Pulliam Road relating to construction haul route, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy. **MM 4.3.5h CUP#17-0034** Install up to 2,400 feet of asphalt paving required on Kubler Road west of Pulliam Road relating to the construction haul route and 2,400 feet of Drew Road, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans, unless already condition has already been satisfied as part of CUP#17-0033.	LTS

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Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.5** Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	PS	**MM 4.3.5i CUP#17-0035 and CUP#18-0001** Install up to 2,400 feet of asphalt paving required on Drew Road relating to construction haul route, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans.	LTS

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Emergency Access **Impact 4.3.6** The proposed Project includes emergency access points off of Kubler Road, Drew Road, Pulliam Road. Access of SR 98 is to a frontage road which connects with an emergency access. Final design will be review by the Imperial County Fire Department and Imperial County Sheriff's Office prior to approval. Therefore, impacts associated with adequate emergency access are **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS - Existing (Year 2017) With Project Construction With Cumulative Conditions **Impact 4.3.7** Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under (Year 2017) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to study area intersections, roadway, State Route and freeway segments under (Year 2017) With Project Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario under both the Full Build-Out Scenario and Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS Near-Term (Year 2019) With Project Construction With Cumulative Conditions) **Impact 4.3.8** Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under Near-Term (Year 2019) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to Project study area intersections, roadway, State Route and freeway segments under Near-Term (Year 2019) With Project Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS - Long-Term (Year 2027) With Project Construction With Cumulative Conditions **Impact 4.3.9** Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under Long-Term (Year 2027) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to Project study area intersection, roadway, State Route and freeway segments under Long-Term (Year 2027) With Project Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Increase Hazards Due to a Geometric Design Feature **Impact 4.3.10** Implementation of the proposed Project would not require improvements or modifications to any Project study area roadways. Therefore cumulative increases in hazards due to a geometric design feature are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.	LCC	None required.	LCC
Cumulative Increases in Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction **Impact 4.3.11** Construction of the proposed Project, in combination with other cumulative projects using Project study area roadways, will require movement of heavy-duty equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The high volume of trips in combination with the weight of construction vehicles would deteriorate the surface of Project study area roadways. This is considered a **cumulatively considerable impact** under both the Full Build-Out Scenario and Phased CUP Scenario.	LCC	Implement mitigation measures MM 4.3.5a thru MM 4.3.5i.	LCC

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AIR QUALITY			
Conflict with or Obstruct Implementation of an Applicable Air Quality Plan **Impact 4.4.1** Implementation of the proposed Project would increase air pollutant emissions during Project construction and operation. No criteria pollutant thresholds were calculated to be exceeded during either Project construction or operation. Therefore, the Project's potential to conflict with or obstruct an applicable air quality plan is considered a **less than significant impact** during Project construction, operation and decommissioning/reclamation.	LTS	None required.	LTS

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Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant **Impact 4.4.2** The proposed Project is consistent with ICAPCD plans and would not exceed pollutant thresholds during construction, operation and reclamation. Therefore, the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant is considered **less than significant** under the worst-case Full Build-out Scenario.	LTS	None required.	LTS

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Exposure of Sensitive Receptors to Substantial Pollutant Concentrations **Impact 4.4.3** The proposed Project would result in short-term diesel exhaust emissions during construction and decommissioning/reclamation. However, diesel exhaust operational emissions would be very low. Based on the worst-case Full Buildout Scenario, exposure of sensitive receptors in the vicinity of the Project Site would be for a limited duration and would not exceed the diesel particulate matter exposure threshold. Therefore, sensitive receptor exposure to substantial pollutant concentrations is considered a **less than significant impact** under the worst-case Full Build-out Scenario.	LTS	None required.	LTS
Result in Emissions Affecting a Substantial Number of People **Impact 4.4.4** Use of diesel equipment during Project construction, operation and decommissioning/reclamation activities could result in temporary emissions of adverse odors. This is considered a **less than significant impact** under the Full Build-out Scenario.	LTS	None required.	LTS

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Cumulative Air Quality Impacts – Violate Air Quality Standard/Cause Air Quality Violation **Impact 4.4.5** The proposed Project would generate criteria pollutant emissions during construction. However, the short-term construction emissions exceedances of ICAPCD thresholds would be mitigated through compliance with ICAPCD Regulation VIII. Operational emissions would not exceed ICAPCD thresholds. Therefore, the proposed Project would result in a **less than cumulatively considerable impact** with regard to violating an air quality standard under both the Full Buildout Scenario and Phased CUP Scenario.	LCC	None required.	LCC

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GREENHOUSE GASES			
Generation of Greenhouse Gas Emissions **Impact 4.5.1** The proposed Project would generate GHG emissions during construction and reclamation activities, primarily related to emissions from construction equipment. Operational emissions would occur to a lesser degree in relation to the use of maintenance equipment. Impacts resulting from Project-generated GHGs are considered **less than significant**.	LTS	None required.	LTS
Conflict with an Applicable Plan, Policy, or Regulation Adopted to Reduce Greenhouse Gas Emissions **Impact 4.5.2** The Project would help promote California's GHG policies by creating renewable energy resources and would not exceed applicable GHG screening levels. Therefore, the proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Moreover, Project conflicts with an applicable plan, policy, or regulation adopted to reduce GHG emissions are considered **less than significant** during construction, operation and reclamation.	LTS	None required.	LTS

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GEOLOGY AND SOILS			
Alquist-Priolo Earthquake Fault Rupture **Impact 4.6.1** An unnamed fault mapped as an Alquist-Priolo Earthquake Fault Zone extends into CUP #17-0035. Surface rupture is considered low to moderate. This is considered a **potentially significant impact**.	PS	**MM 4.6.1** A Fault Hazard Study including fault trenching shall be prepared for CUP#17-0035 and CUP#18-0001 to address any issues associated with the presence of an Alquist-Priolo Earthquake Fault Zone.	LTS

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Strong Seismic Ground Shaking **Impact 4.6.2** The Project site is located in a seismically active region and would be subject to strong seismic ground shaking in the event of an earthquake. This is considered a **potentially significant impact**.	PS	**MM 4.6.2** Prior to approval of final building plans, a registered civil engineer or certified engineering geologist, having at least five years of experience in the field of seismic hazard evaluation and mitigation, shall prepare a Final Geotechnical and GeoHazards Report containing site-specific evaluations of the ground shaking hazards affecting the Project, identify the portions of the Project site containing ground shaking hazards, and identify appropriate Project design measures pursuant to the established and proven methodologies (e.g. Special Publication 117A). The Report shall also include site-specific evaluations of potential for liquefaction, expansive soils and corrosive soils for all solar field site parcels, energy storage components and Gen-Tie foundations. The Report shall identify appropriate Project design measures pursuant to the established and proven methodologies set forth in the 2016 CBC. All recommended Project design measures as set forth in the Final Geotechnical and GeoHazards Report	LTS

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Strong Seismic Ground Shaking **Impact 4.6.2** The Project site is located in a seismically active region and would be subject to strong seismic ground shaking in the event of an earthquake. This is considered a **potentially significant impact**.	PS	shall be incorporated into and reflected on the final design and building plans for each CUP. All recommended Project design measures as set forth in the Final Geotechnical and GeoHazards Report shall be incorporated into and reflected on the final design and building plans. The Final Geotechnical and GeoHazards Report and Project plans shall be submitted for review and approval by the Imperial County Planning and Development Services Department, Division of Building & Safety prior to approval of the final building plans.	LTS
Liquefaction **Impact 4.6.3** Soils throughout the solar field site parcels have characteristics prone to liquefaction. Evidence of liquefaction was also noted in the area of the Project site. Therefore, a **potentially significant** impact could occur with regard to liquefaction.	PS	Implement mitigation measure MM 4.6.2.	LTS

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Soil Erosion **Impact 4.6.4** Construction, maintenance, and decommissioning activities would result in earth moving and potential for erosion and loss of top soil. The Project is subject to mandatory compliance with several regulatory requirements established to address erosion. Therefore, soil erosion impacts are considered **less than significant**.	LTS	None required beyond compliance with state and local construction requirements as well as Phased CUP Scenario-Proposed Measures related to dust and erosion control.	LTS
Expansive Soils **Impact 4.6.5** Near surface soils within the Project site consist of silty clay and clay having a moderate to high expansion potential. Therefore, expansive soils impacts are considered **less than significant**.	LTS	Implement mitigation measure MM 4.6.2.	LTS

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Soil Capability to Support On-site Wastewater Treatment System **Impact 4.6.6** The Project would generate wastewater from sanitary facilities such as sinks and toilets in the O&M building(s). The Project proposes to construct an on-site sanitary waste septic system. Project site soils are capable of supporting an on-site wastewater treatment system. Therefore, impacts with regard to supporting an on-site wastewater treatment system are considered **less than significant**.	LTS	None required.	LTS
Soil Corrosivity **Impact 4.6.7** Soils within the Project Area are known to be corrosive. Steel and concrete structures could be damaged through contact with corrosive soils. This is considered a **potentially significant impact**.	PS	**MM 4.6.7a** Concrete mixed with higher cement contents (6 sacks Type V Portland Cement) and low water-cement ratios (0.45 w/c ratio) shall be used for all concrete structures proposed as part of the Project subject to approval by the County Engineer and Planning Director. **MM 4.6.7b** Zinc coatings (galvanizing) or increased structural sections shall be used to protect all steel posts and to compensate for metal loss due to corrosion subject to approval by the County Engineer and Planning Director.	LTS

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Impacts to Paleontological Resources **Impact 4.6.8** The Project Site and surrounding areas are underlain by geologic units comprised of quaternary lake deposits of the ancient Lake Cahuilla. As such, the potential exists for fossils to be impacted during construction. Thus, impacts to paleontological resources are considered **potentially significant** for both the Full Build-out Scenario and the Phased CUP Scenario.	PS	**MM 4.6.8** Qualified Paleontological monitor(s) shall be hired to oversee excavations or drilling activities greater than 10 feet in depth. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Fossil specimens shall be curated by accessioning into an established, accredited museum repository with permanent retrievable paleontological storage. A report of findings with an appended itemized inventory of specimens shall be prepared. Submittal of the report and inventory to the Imperial County Planning and Development Services Department, along with confirmation of the curation of recovered specimens into an established, accredited museum repository, shall signify completion of the program to mitigate impacts to paleontological resources.	LTS

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Cumulative Exposure to Geologic and Seismic Impacts **Impact 4.6.9** Implementation of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the region, may result in cumulative exposure to geologic and seismic hazards. However, geologic and seismic hazards are analyzed and mitigated on a project-by-project basis. Therefore, cumulative exposure to geologic and seismic impacts is considered **less than cumulatively considerable**.	LCC	Implement mitigation measures MM 4.6.1, MM 4.6.2, MM 4.6.7a, and MM 4.6.7b	LCC
Cumulative Impacts to Paleontological Resources **Impact 4.6.10** Implementation of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the region identified in the cumulative setting, has the potential to result in impacts to paleontological resources including fossil remains and fossil bearing geological formations. However, such impacts are addressed on a project-by-project basis through the CEQA process. Therefore, impacts to paleontological resources are considered **less than cumulatively considerable** or both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	Implement mitigation measure MM 4.6.8.	LCC

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SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
CULTURAL RESOURCES & TRIBAL CULTURAL RESOURCES			
Impacts to Historical Resources **Impact 4.7.1** All historic age irrigation canals and drainage resources within the Project APE are recommended not eligible for the NRHP and CRHR based on a lack of historical significance, and in some cases, a lack of integrity. Therefore, impacts to historical resources are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Impacts to Unanticipated Archaeological Resources **Impact 4.7.2** The proposed Solar Field Site Parcels have been farmed since the late 1930's and most are currently in agricultural production. No known archaeological resources were identified during the Records Search or pedestrian survey. However, the potential exists for unanticipated archaeological resources to be discovered during construction. This is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.	PS	**MM 4.7.2a** A monitor from the Campo Band of Mission Indians shall be present as a Native American monitor for initial ground disturbing activities within the boundaries of the Project site. Following initial disturbance, a determination shall be made by the County in accordance with State regulations if continued monitoring is necessary based on the outcome of any discoveries or lack thereof. **MM 4.7.2b** In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. If the discovery is clearly not significant (e.g., an isolate) the archaeologist may simply record the find and allow work to continue. If the discovery proves potentially significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.	LTS

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SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Impacts to Previously Unknown Subsurface Human Remains **Impact 4.7.3** Though unlikely, previously unknown human remains may be present within the Project Site which could be unearthed during construction. This is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.	PS	**MM 4.7.3** In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified of the discovery immediately. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.	LTS

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IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource **Impact 4.7.4** Implementation of the proposed Project under both the Full Build-out Scenario and Phased CUP Scenario would not result in a substantial adverse change in the significance of a tribal cultural resource. No tribal cultural resources were identified as part of the AB 52 process. Therefore, impacts to tribal cultural resources would be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.	PS	Implement mitigation measure MM 4.7.2a.	LTS

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SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Cumulative Impacts to Historic and Archaeological Resources, Human Remains and Tribal Cultural Resources **Impact 4.7.5** Implementation of the proposed Project, in combination with proposed, approved, and reasonably foreseeable projects in the region identified in the cumulative setting, has the potential to result in impacts to historic and archaeological resources, human remains and tribal cultural resources. However, impacts to historic and archaeological resources, human remains and tribal cultural resources are addressed on a project-by-project basis through the CEQA process. Therefore, this is considered a **less than cumulatively considerable impact** for both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	Implement mitigation measures MM 4.7.2a, MM 4.7.2b and MM 4.7.3.	LCC

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NOISE			
Substantial Temporary or Permanent Noise Increase in Excess of Standards **Impact 4.8.1** Construction and decommissioning activities would cause short-term increases in noise on and in the vicinity of the Project. Likewise, operation of the Full Build-out Scenario or the Phased CUP Scenario could cause permanent noise levels to rise**.** However, the Project includes noise- and vibration-reducing design features which would reduce noise levels during construction, operation and decommissioning to be within County standards. Therefore, impacts with regard to noise levels in excess of standards and substantial temporary and permanent noise increases are considered **less than significant** for both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Groundborne Vibration or Groundborne Noise Level Impacts **Impact 4.8.2** The proposed Project would generate groundborne vibration or noise levels associated with construction and operation of on-site equipment. However, the levels are anticipated to be below the level of human annoyance and the significance threshold. Therefore, groundborne vibration and noise impacts are considered **less than significant** for both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS
Cumulative Noise Increases/Groundborne Vibration **Impact 4.8.3** Long-term operation of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the region, would not result in a substantial contribution to cumulative noise levels or groundborne vibration. Therefore, cumulative noise impacts and groundborne vibration would be considered **less than cumulatively considerable** for both the Full Build-Out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Cumulative Noise Increases **Impact 4.8.4** Long-term operation of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the region, would not result in a substantial contribution to cumulative noise levels. Therefore, cumulative noise impacts would be considered **less than cumulatively considerable**.	LCC	None required.	LCC
AGRICULTURAL RESOURCES			
Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance **Impact 4.9.1** The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.	PS	**MM 4.9.1a Payment of Agricultural and Other Benefit Fees** One of the following options included below shall be implemented prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project: <u>For Non-Prime Farmland</u>: **Option 1**: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement	LTS

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Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance **Impact 4.9.1** The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.	PS	shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; **Option 2**: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the total acres of 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**: 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	LTS

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Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance **Impact 4.9.1** The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.	PS	within Imperial County and to implement the goals and objectives of the Agricultural Benefit program, as specified the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy. For Prime Farmland: **Option 1**: The Permittee shall procure Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easements shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or **Option 2**: 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	LTS

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Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance **Impact 4.9.1** The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.	PS	acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County. **Option 3**: The Permittee and County shall 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 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 local economy for the purpose of off-setting jobs displaced by this Project. **Option 4**: The Permittee shall revise their CUP Application/Site Plan to avoid Prime Farmland.	LTS

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Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance **Impact 4.9.1** The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.	PS	**MM 4.9.1b Reclamation/Decommissioning Plan and Security** Prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project, the Permittee shall submit to Imperial County a Reclamation and Decommissioning Plan. The plan shall document the procedures by which each CUP area will be returned to its current agricultural condition/LESA score of 57.9. The Permittee shall also provide financial assurance/bonding in an 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.	LTS
Indirect Environmental Effects of Conversion of Farmland **Impact 4.9.2** The proposed Project would not involve other changes to the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. Nuisance issues such as dust, pests and weeds are already addressed through ICAPCD Rules and County requirements to prepare Weed and Pest Management Plans. Thus, indirect effects of the temporary conversion of farmland are considered **less than significant**.	LTS	None required.	LTS

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Cumulative Agricultural Resources Impacts **Impact 4.9.3** Implementation of the Project under both the Full Build-out Scenario and the Phased CUP Scenario would incrementally add to the temporary conversion of agricultural land in Imperial County. Temporary impacts to agricultural resources are mitigated on a project-by-project basis through payment of in-lieu fees, conservation easements and/or execution of Public Benefit Agreements. Therefore, temporary impacts to agricultural resources are considered **less than cumulatively considerable**.	LCC	Implement MM 4.9.1a and MM 4.9.1b.	LTS

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HAZARDS AND HAZARDOUS MATERIALS			
Hazardous Materials Transport, Use, Disposal and Accidental Release **Impact 4.10.1** Implementation of both the Full Build-out Scenario and Phased Build-out Scenario would use some hazardous materials for the construction, operations, and decommissioning phases and could create a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials. All materials would be transported, used and disposed of in accordance with all applicable local, state and federal requirements. Therefore, impacts associated with accidental release during hazardous materials transport, use and disposal are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**	LTS	None required.	LTS

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Hazard Through Upset/Release of Hazardous Materials **Impact 4.10.2** No hazardous materials that could be a significant hazard to the public or the environment were identified on the proposed solar field site parcels. Therefore, impacts associated with hazard through upset/release of hazardous materials are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**	LTS	None required.	LTS
Cumulative Hazards and Hazardous Materials Impact **Impact 4.10.3** The proposed Project, in combination with other reasonably foreseeable projects in the vicinity of the solar field site parcels, would increase the density of development in the area, thereby potentially increasing the potential for the presence of hazards and use of hazardous materials. However, hazards are addressed on a case-by-case basis through federal and state hazardous materials laws, regulations, and policies. Therefore, cumulative hazards and hazardous materials impacts are considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**	LCC	None required.	LCC

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HYDROLOGY AND WATER QUALITY			
Violate Water Quality Standards or Waste Discharge Requirements **Impact 4.11.1** Implementation of the proposed Project, whether under the Full Build-out Scenario or phased by CUP Area under the Phased CUP Scenario, would generate small amounts of runoff during construction, operation and decommissioning. The Project would comply with all applicable water quality regulations and implement Applicant-proposed BMPs in order to meet water quality standards and waste discharge requirements. Therefore, this impact is considered **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Result in Decreased Groundwater Supplies or Interfere Substantially with Groundwater Recharge **Impact 4.11.2** Project implementation under both the Full Build-out Scenario and the Phased CUP Scenario would not impact groundwater supply as the Project does not propose use of groundwater. During construction and decommissioning, there is a small potential for encountering groundwater while excavating for structure foundations or Gen-Tie footings. If groundwater is encountered, it would be contained locally in the vicinity of Gen-Tie pole locations and substation foundations. The CUP Areas would largely remain pervious during Project operation. Therefore, impacts associated with decreasing groundwater supplies or interfering with groundwater recharge are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Result in Substantial Erosion or Siltation On- or Off-site **Impact 4.11.3** During construction, operation and maintenance and decommissioning activities, the Project shall comply with a Project-specific SWPPP, file for coverage under the construction and operational NPDES permits and comply with all other applicable State and local regulations. Therefore, under both the Full Build-out Scenario and Phased CUP Scenario, Project implementation would result in a **less than significant** impact regarding earth disturbance and potential for erosion and loss of top soil.	LTS	None required.	LTS

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Alteration of Drainage Pattern Substantially Increasing Surface Runoff/Construction of Stormwater Drainage **Impact 4.11.4** Upon Project implementation under both the Full Build-out Scenario and Phased CUP Scenario, Project site drainage patterns and the general drainage system will remain similar to the existing condition. Runoff will follow existing drainage patterns to proposed basins/ponding areas for detention and infiltration with storm flows conveyed toward existing IID Drains. Project implementation will also result in less run-off from the Project site as compared to the existing agricultural uses. Therefore, Project implementation would result in a **less than significant impact** with regard to substantially altering the existing drainage pattern in a manner which would result in flooding on- or off-site under both the Full Build-out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Create or Contribute Runoff Exceeding Capacity/Provide Substantial Sources of Polluted Runoff **Impact 4.11.5** Implementation of the proposed Project would generate on-site runoff throughout the Project site as a whole under the Full Build-out Scenario and at each of the six CUP Areas if constructed under the Phased CUP Scenario. Alteration of the existing drainage pattern would not alter the course of a stream or river nor would the Project create additional sources of polluted runoff. Existing drainage patterns would be maintained and the surface of each CUP Area would remain mostly pervious. Sufficient capacity to collect on-site runoff is available in receiving IID drains and proposed on-site ponding areas/detention basins. Therefore, impacts associated with exceedance of existing or planned stormwater drainage systems capacity or providing additional sources of polluted runoff are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Cumulative Water Quality and Runoff Impacts **Impact 4.11.6** With the implementation of legally required SWRCB, RWQCB, and County policies, plans and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, the proposed Project, in combination with approved, proposed and other reasonably foreseeable projects in the Salton Sea watershed would not contribute to the cumulative effects of degradation of water quality, or result in changes in water runoff patterns. This impact is considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC

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BIOLOGICAL RESOURCES			
Impacts to Special Status Species (Burrowing Owl) **Impact 4.12.1** The Project Area contains suitable habitat for burrowing owl. Several owls were discovered during field surveys of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** under both the Full Build-out and Phased CUP Scenarios.	PS	**MM 4.12.1a General Avoidance and Minimization Measures** <u>Debris/Non-native Vegetation/Pollution</u> • Fully covered trash receptacles that are animal-proof will be installed and used onsite to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash. • No litter or debris will be discharged into state-jurisdictional waters. • Work areas shall be kept clean of debris, such as trash, and construction materials. • Vehicle and Equipment Restrictions and Maintenance • Night-time construction should be minimized to the extent possible. However, if night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph. • Vehicle operation within jurisdictional resources when surface water is present will be prohibited except as necessary to perform work in IID facilities pursuant to USACE, RWQCB, and/or CDFW permits and/or authorizations. Any equipment or vehicles driven and/or operated within or adjacent to a state-jurisdictional	LTS

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Impacts to Special Status Species (Burrowing Owl) **Impact 4.12.1** The Project Area contains suitable habitat for burrowing owl. Several owls were discovered during field surveys of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** under both the Full Build-out and Phased CUP Scenarios.	PS	channel will be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse. • Vehicles and equipment access will be limited to the identified impact areas and speed limit of 15 mph will be enforced. The work areas and sensitive areas will be flagged prior to construction in order to ensure construction activities remain within the approved work limits. During operations and maintenance, vehicles and equipment will be restricted from entering sensitive habitat, and limited to maintenance access roads, where feasible, and the minimal area necessary to perform the work. • Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated impact area. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the jurisdictional waters.	LTS

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Impacts to Special Status Species (Burrowing Owl) **Impact 4.12.1** The Project Area contains suitable habitat for burrowing owl. Several owls were discovered during field surveys of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** under both the Full Build-out and Phased CUP Scenarios.	PS	<u>Other Restrictions on Activities and Personnel</u> • No pets, such as cats or dogs, permitted on the Project site during construction or operations and maintenance. • Any contractor, employee, or agency personnel who kills, injures, or traps a wildlife species shall immediately report the incident to the Project biologist during construction and the operations manager during operations and maintenance. • All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way, and subsequently covered to prevent entry to nesting birds and other wildlife. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Project biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.	LTS

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Impacts to Special Status Species (California Black Rail and Yuma Ridgeway's Rail) **Impact 4.12.2** Suitable habitat for California Black Rail and Yuma Ridgeway's Rail is present within irrigation ditches located within the boundaries of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** during Project construction under both the Full Buildout and Phased CUP Scenarios.	PS	Implement mitigation measure MM 4.12.1a, MM 4.12.1b and MM 4.12.1d.	LTS

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Impacts on Riparian Habitat, Wetland Community or other Sensitive Natural Community (Arrow Weed Thicket and Cattail Marsh Alliance) **Impact 4.12.3** The Project site contains Arrow Weed Thickets and Cattail Marshes Alliance. Arrow Weed Thicket is a sensitive biological resource under CEQA and Cattail Marshes Alliance is a wetland community, which is typically afforded protection under CEQA and the Clean Water Act. Implementation of the proposed Project would require permanent removal of both vegetation communities within the boundaries of CUP#17-0033. This is considered a **potentially significant impact** during Project construction under both the Full Buildout and Phased CUP Scenarios.		**MM 4.12.3 CUP#17-0033 - Federal and State Agency Permits** To comply with the state and federal regulations for impacts to jurisdictional resources regulated by the United States and State of California, the following permits and agreement shall be obtained, or evidence shall be provided from the respective resource agency satisfactory to the County that such an agreement or permit is not required if development activities are proposed within jurisdictional waters: • A Clean Water Act Section 404 permit issued by the USACE for all Project-related disturbances of jurisdictional non-wetland waters and/or wetlands. • A Clean Water Act Section 401 permit issued by the RWQCB for all Project-related disturbances of jurisdictional non-wetland waters and/or wetlands. A Section 1602 Streambed Alteration Agreement issued by the CDFW for all Project-related disturbances of any streambed and associated riparian habitat.	

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Impacts on Wetlands/Jurisdictional Resources **Impact 4.12.4** Implementation of the proposed Project would result in the loss of both wetland waters under the jurisdiction of the USACE as well as riparian habitat during construction within the boundaries of CUP#17-0033. This is considered a **potentially significant impact** under both the Full Buildout and Phased CUP Scenarios.	PS	Implement mitigation measure MM 4.12.3, CUP#17-0033 - Federal and State Agency Permits.	LTS
Impacts to Wildlife Corridors/Habitat Linkage **Impact 4.12.5** The Project site is primarily surrounded by, and includes, extensive historical and present day agricultural practices. The Project site is also bordered on the east and south by operating solar facilities. Therefore, impacts to wildlife corridors or habitat linkage are considered **less than significant** under both the Full Buildout and Phased CUP Scenarios.	LTS	None required.	LTS

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Cumulative Impacts to Biological Resources **Impact 4.12.6** Implementation of the proposed Project in combination with other proposed, approved and reasonably foreseeable projects in the region could have cumulative impacts on special status species, sensitive vegetation communities, and jurisdictional waters. However, impacts to biological resources are addressed and mitigated on a project-by-project basis. Therefore, cumulative impacts to biological resources are considered **less than cumulatively considerable** under both the Full Buildout and Phased CUP Scenarios.	LCC	Implement mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2	LCC

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PUBLIC SERVICES & UTILITIES			
Impacts to ICFD Services **Impact 4.13.1** The Proposed Project would develop a solar energy generation and storage facility on agricultural land in Imperial County. The location of the Project and the potential for development of individual CUP Areas over time could result in increased demand on the ICFD services. However, the Project would not cause a need to expand ICFD's public facilities. Therefore, impacts to ICFD services are **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario. Additionally, the proposed Project has been designed to incorporate fire safety features and would contribute to the agency to offset any costs associated with the Project.	LTS	None required.	LTS
Impacts to ICFD Accessibility **Impact 4.13.2** The proposed Project will be designed to comply with ICFD access requirements. As such, impacts to ICFD accessibility are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Cumulative Impacts to ICFD Fire Protection and Emergency Response **Impact 4.13.3** Development of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the ICFD service area, would increase demand for fire protection and emergency medical response. However, each individual project would be required to incorporate fire safety features, adequate access, and worker safety protocols in compliance with all applicable fire and occupational safety standards and codes. However, implementation of these projects would not cause ICFD to expand its public facilities. Therefore, environmental impacts related to fire protection and emergency response are considered less **than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC

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Impacts to ICSO Services **Impact 4.13.4** Implementation of the Project could negatively affect the ICSO's response times and ability to carry out patrol duties. However, implementation of the proposed Project would result in the need to expand ICSO's public facilities. Therefore, potential environmental impacts to law enforcement services are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS
Cumulative Impacts to ICSO Services **Impact 4.13.5** Development of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in Imperial County would result in an increased cumulative demand for law enforcement. However, cumulative projects would not cause the ICSO to expand its public facilities. Therefore, impacts to law enforcement services are **less than cumulatively considerable** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario.	LCC	None required.	LCC

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Construction of New Water Facilities **Impact 4.13.6** The Project may install on-site water treatment facilities within each CUP that has an O&M Building Complex. The facilities would be constructed within the footprint of the CUP and would not disturb off-site lands. Therefore, impacts associated with provision of water treatment facilities are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS
Water Supply Sufficiency **Impact 4.13.7** The Project proposes to obtain water from the IID canal network for construction, operation and maintenance, and decommissioning/reclamation activities. Project demands for water would be lower than current agricultural water supply requirements. The IID Canal system and water entitlements are adequate to meet the proposed water demands and the Project would not cause a need to expand water entitlements. Therefore, impacts to water supply are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Cumulative Water Supply Impacts **Impact 4.13.8** Development of the proposed Project would require use of surface water from the IID canal system. Requests for water supply are approved by the IID on a project-by-project basis. The proposed Project would require less water than current agricultural uses on the solar field site parcels. Therefore, the Project's contribution to cumulative water supply impacts is considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Construction of New Wastewater Treatment and Wastewater Treatment Infrastructure **Impact 4.13.9** The Project area is not currently served by a wastewater system. On-site septic system(s) and leach field(s) are proposed for each CUP where an O&M Building will be constructed. Near-surface soils are considered good in supporting an on-site septic systems and leach fields for wastewater disposal. Therefore, impacts to wastewater treatment and wastewater conveyance infrastructure are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC
Cumulative Wastewater Impacts **Impact 4.13.10** Development of the proposed Project would generate demand for on-site wastewater treatment. Septic systems and leach fields are proposed at individual CUP Areas where an O&M building will be constructed to provide wastewater service. Therefore, cumulative wastewater impacts are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Generate Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste **Impact 4.13.11** Solid waste would be generated during construction, operation and maintenance, and decommissioning of the proposed Project. Solid waste materials would be disposed of using a locally-licensed waste hauling service and disposed of at a local landfill with sufficient capacity to accept this waste. Thus, a **less than significant impact** is identified for this issue under both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Impacts to Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste **Impact 4.13.12** Implementation of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the County of Imperial, would result in cumulative demand for solid waste service and landfill capacity. However, the proposed Project would not generate a substantial quantity of waste, and disposal service is available to serve the Project. Therefore, cumulative solid waste impacts are considered **less than cumulatively considerable impact** under both the Full Build-out Scenario and Phased CUP Scenario.	LTS	None required.	LTS

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Relocation or Construction of New or Expanded Electric Power Facilities **Impact 4.13.13** The proposed Project would increase the demand for electrical services from IID to operate the O&M building(s) and keeping inverters warm during the evening hours. Within its on-site disturbance area, the Project includes a substation feedback and transmission interconnection coordinated with IID through an Affected Systems Agreement and Back-feed and Station Power Service Agreement. No permanent expansion of IID electrical infrastructure is necessary for the proposed Project. Thus, the proposed Project's impacts to electricity and electrical infrastructure are **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Impacts to Electric Service **Impact 4.13.14** Implementation of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the County of Imperial, would result in a minimal increase in the current use of IID electricity and a substantial increase in solar energy generation. The Project does not require the relocation or construction of new or expanded IID facilities. Therefore, cumulative impacts to electrical service are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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Impacts to Telecommunications Facilities **Impact 4.13.15** The proposed Project and surrounding area is not currently served by telecommunications facilities. The proposed Project would increase the demand for telephone and internet services. AT&T is anticipated to provide service to the Project as needed in accordance with all applicable fees. Therefore, impacts to telecommunication facilities are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.	LCC	None required.	LCC

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Cumulative Impacts to Telecommunications Facilities **Impact 4.13.16** Implementation of the Proposed Project, in combination with other existing, proposed, approved and reasonably foreseeable projects in the region, would result in cumulative demands to telephone and internet service. Telecommunication service providers procure service to individual development projects on an as-needed basis. Therefore, cumulative impacts to telecommunication facilities are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.	LTS	None required.	LTS

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ENERGY			
Use of Energy Resources During Project Construction and Operation **Impact 4.14.1** Energy requirements for construction, operation, and decommissioning of the Project under the Full Build-out Scenario and all CUP Areas (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) as proposed under the Phased CUP Scenario would not result in inefficient energy use by amount or fuel type. Therefore, the Project would therefore have a **less than significant impact** on energy use by amount or fuel type.	LTS	None required.	LTS
Consumption of Energy - Effects on Local and Regional Energy Supplies **Impact 4.14.2** The proposed Project, whether implemented under the Full Build-out Scenario or the Phased CUP Scenario, would not use substantial amounts of local and regional energy supplies or create requirements for additional capacity. Therefore, the Project's impact on local and regional energy supplies would be **less than significant**.	LTS	None required.	LTS

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Consumption of Energy - Effects on Peak and Base Period Demands **Impact 4.14.3** The proposed Project would not impose additional demands on peak and base period demands for electricity and other forms of energy. To the contrary, under both the Full Buildout Scenario and the Phased CUP Scenario, the Project would contribute electricity during peak and base period demands. Therefore, the Project's impact on peak and base period demands for electricity and other forms of energy would be **less than significant**.	LTS	None required.	LTS
Conflict with or Obstruct State or Local Plan - Compliance with Existing Energy Standards **Impact 4.14.4** Implementation of the Full Build-out Scenario or the Phased CUP Scenario would comply with existing energy standards. The Project would result in production of renewable solar energy that would help the State of California meet its goals for use and production of alternative renewable energy sources. Therefore, the Project's impact on compliance with existing energy standards would be **less than significant**.	LTS	None required.	LTS

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SUMMARY OF IMPACTS

IMPACT	LEVEL OF IMPACT/ SIGNIFICANCE BEFORE MITIGATION	MITIGATION MEASURES	LEVEL OF IMPACT/ SIGNIFICANCE AFTER MITIGATION
Energy Consumption - Effects on Energy Sources **Impact 4.14.5** Project implementation under the Full Build-out Scenario or the Phased CUP Scenario would not have an adverse effect on energy resources. The Project would create a new source of renewable energy resources. Therefore, the Project's effect on energy resources would be **less than significant**.	LTS	None required.	LTS
Energy Consumption - Transportation Energy Use **Impact 4.14.6** Implementation of the Full Build-out Scenario or Phased CUP Scenario will generate minimal traffic during the operational phase. The Applicant will implement strategies to minimize transportation energy use and ensure overall use of efficient transportation alternatives, as appropriate. Therefore, the Project's impact on transportation energy would be **less than significant**.	LTS	None required.	LTS

LTS = Less than Significant
LCC = Less than Cumulatively Considerable
PS = Potentially Significant
CC = Cumulatively Considerable
SU = Significant and Unavoidable
NI = No Impact

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CHAPTER 1.0
INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

The California Environmental Quality Act (CEQA) requires State and local public agencies to prepare an Environmental Impact Report (EIR) prior to approving any project that may have a significant effect on the environment. According to CEQA, a "project" is defined as the whole of an action that has the potential to result in a direct physical change or a reasonably foreseeable indirect physical change in the environment (State CEQA Guidelines Section 15378[a]). The Drew Solar Project ("Project" or "proposed Project") is located in Imperial County and meets the definition of a "project" as defined by CEQA.

The County of Imperial is the lead agency for the preparation of this EIR under CEQA and is responsible for conducting the environmental review and certifying the EIR. Likewise, consistent with the requirements of CEQA, the County will use the EIR as a decision-making tool to assist with its determination whether to approve, modify, or deny the Project. The County will rely on the EIR to comply with CEQA when acting on the Project. The Project includes: General Plan Amendment (GPA#17-0006); a Zone Change (ZC#17-0007); issue six CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001); Parcel Map (#02478); a Variance (V#17-0003); a Development Agreement and up to five Lot Tie Agreements. The EIR is also intended to be relied upon, consistent with CEQA and the CEQA Guidelines, by all responsible agencies in connection with the approvals discussed in Section 1.6.2 below.

The Drew Solar Project EIR (State Clearinghouse Number [SCH. No.] 2018051036) is a public document for a renewable energy project, specifically a solar generation facility. The EIR describes the existing environment, identifies and evaluates the environmental impacts of the Project, recommends mitigation measures to reduce or avoid the Project's potentially significant environmental impacts, and evaluates a reasonable range of Project alternatives in accordance with the provisions set forth in CEQA and the CEQA Guidelines.

1.2 PROJECT BACKGROUND AND DEFINITIONS

1.2.1 PROJECT BACKGROUND

For the last two decades, California has emerged as a leader in promoting policies designed to renewable energy generation and use. The California Legislature has enacted laws, including a Renewable Portfolio Standard ("RPS") applicable to retail sellers of electricity, intended to promote the development of utility-scale renewable generation. These efforts dovetail with State, regional, and local commitments to reduce emissions of greenhouse gases through energy efficiency measures, renewable energy storage, and reduced dependence on fossil fuel generation. State, regional al local laws, regulations, and polices applicable to renewable energy sector are discussed in Section 1.7 and in greater detail in Section 4.5 (Greenhouse Gases).

The Applicant is proposing to construct, operate and eventually decommission a solar generation and energy storage facility on approximately 855 gross and 762.8 net farmable acres (inclusive of solar field, energy storage, project substation(s), roads, retention basins, O&M buildings and two Gen-Tie lines), collectively "Project", located in southern Imperial County, California. A fundamental challenge posed by solar energy is that peak supply does not consistently coincide with peak demand times (e.g., 5:00 p.m. – 9:00 p.m.). Energy storage is a rapidly developing technology that can help balance supply and demand by capturing and storing renewable energy generated during daylight hours for peak evening demand. Energy storage, where available, reduces reliance on fossil fuels and furthers California's RPS policies by providing for better integration of locally-sourced solar and wind generation and RPS requirements.

The Project will use PV technology to convert sunlight directly into direct current (DC) electricity. The process starts with photovoltaic cells that make up photovoltaic modules (environmentally sealed collections of photovoltaic cells). PV modules are generally non-reflective. Groups of photovoltaic modules are wired together to form a PV array. The DC produced by the array is collected at inverters (power conversion devices) where the DC is converted to AC. The voltage of the electricity is increased by a transformer at each power conversion station to a medium voltage level (typically 34.5 kilovolts (kV)). Medium voltage electric lines (underground and/or overhead) are used to collect the electricity from each medium voltage transformer and transmit it to the facility substation(s), where the voltage is further increased by a high voltage transformer to match the electric grid for export to the point of interconnection at the Drew Road Switchyard. Disconnect switches, fuses, circuit breakers, and other miscellaneous equipment will be installed throughout the system for electrical protection and operations and maintenance purposes.

On December 28, 2017, January 8, 2018, July 5, 2018, July 31, 2018, August 28, 2018, January 22, 2019, and April 8, 2019 the Applicant submitted the following applications to ICPDS Department.

- Amendment (GPA#17-0006) to the Imperial County General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site;
- Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project Site;
- Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project Site (APNs: 052-170-039-000 and 052-170-067-000), including APN 052-170-030 to the north of the Project Site as part of the Parcel Map;
- Five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034 and CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02;
- One CUP (CUP#18-0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 & A-3). Said energy storage would be removed at the time of removal of associated solar facility;
- Variance (V#17-0003) for power pole structures that are over 120 feet in height in the Project Area including the existing Drew Switchyard. With approval of the Variance, the proposed structures could be up to 180 feet in height; and
- Up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another.
- A Development Agreement between the County and the Applicant to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Pursuant to the terms of the Development Agreement, thereafter, the CUPs would be valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

This EIR analyzes the potential environmental impacts of the Project to fulfill the requirements of the California Environmental Quality Act (CEQA).

A Notice of Preparation (NOP) for the Drew Solar Project Draft EIR was issued by the ICPDS Department on May 17, 2018. The NOP is included in **Appendix A** of this EIR.

1.2.2 DEFINITION OF KEY TERMS

Key terms used in describing the Project and throughout the analysis include:

CUP(s) – refers to an individual CUP (i.e. CUP#17-0031), multiple CUPs (i.e. CUP#17-0031, CUP#17-0032 and CUP#17-0033) or all CUPs (CUP#17-0031 thru CUP#17-0034 and CUP#18-0001) as appropriate.

Full Build-out Scenario – refers to the development of facilities described in all six Project CUPs (including five CUPs for solar energy generating systems and one CUP to develop energy storage as a component of solar on lands zoned A-2 and A-3), two Gen-Tie lines, improvements to the Drew Switchyard and other off-site ancillary facilities proposed for development as part of the Project.

Phased CUP Scenario – refers to the development scenario where the Project is constructed in phases by individual CUP (i.e. CUP#17-0031) or a group of CUPs (i.e. CUP#17-0031, CUP#17-0035 and CUP#18-0001) as appropriate to accommodate market demand. This scenario also refers to the two Gen-Tie lines, electrical collector line, energy storage as a component of solar on lands zoned A-2 and A-,3 and other off-site ancillary facilities proposed for development as part of the Project.

Project – refers to construction, operation, and decommissioning of the solar field site parcels, two Gen-Tie lines, Drew Switchyard, energy storage as a component of solar on lands zoned A-2 and A-3, and other on-site and off-site ancillary features as described in the Project Description under either the Phased CUP Scenario or Full Build-out Scenario with up to approximately 762.8 acres of disturbance.

Project Site – refers individually or collectively to the six parcels (052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) on which the Project is proposed.

Project Area – refers to the area encompassed by all six CUPs as well as two Gen-Tie lines and other off-site ancillary facilities.

Gen-Tie Lines – refers to the two generation interconnection (Gen-Tie) lines proposed to extend south across State Route 98 to connect the Project to the Drew Switchyard. Both gen-tie lines may be underground or one may be underground and one above-ground.

Solar Energy Center – refers to the area developed within each CUP with PV panels, inverters and pad mounted transformers, substation and switchyard, energy storage, O&M building, etc.

Solar Field Site Parcels – refers to the six parcels (052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) which are currently fields where the PV panels and associated solar equipment are proposed for development as CUP#17-0031 thru CUP#17-0035 and energy storage as a component of solar on lands zoned A-2 and A-3 as CUP#18-0001. This does not include improvements in the Drew Switchyard.

Solar Energy Generation Component. This component includes the construction, operation, and decommissioning of the five proposed solar energy generation parcels generation phases including the solar generating and collecting equipment, Operation and Maintenance building(s) and associated parking, on-site roads, driveways on County roads and SR 98, improvements to County roads, project electrical facilities crossing IID canal/drain rights-of-way, connections to IID canals for raw water service, raw water/fire water storage, water filtration buildings and equipment, treated water storage, storm water retention basins and connection to IID drains, equipment control buildings, septic systems,

perimeter fencing, connections to IID electrical distribution system, connections to dry utility distribution facilities, substation(s), and supporting transmission and Gen-Tie facilities. This component could be built out under either the Full Build-out Scenario or Phased Build-out Scenario.

Energy Storage Component. This component includes the proposed construction, operation, and decommissioning/reclamation of energy storage as a component of solar on lands zoned A-2 and A-3. Per County requirements, energy storage could be constructed at a ratio of 2 MW of storage for every one MW of solar generation capacity.

Drew Switchyard and Gen-Tie Lines Component. This component includes the construction, operation and decommissioning of required improvements at the existing Drew Switchyard facility and supporting transmission and the two Gen-Tie lines extending from the south end of the Project site across SR 98 into the Drew Switchyard located on APN 052-190-039-000 in order to accommodate the Project's proposed utilization of the facility. The two Gen-Tie lines are proposed to extend approximately 400 feet south from the Project site across Drew Road and SR 98. One gen-tie is for solar generation and one is for energy storage. Both gen-tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. This component could be built out under either the Full Build-out Scenario or the Phased Build-out Scenario. Therefore, phased-buildout is not analyzed separately for this component.

1.3 PROJECT OVERVIEW

The Project is a proposal to build an approximately 100-mega-watt (MW) alternating current (AC) solar generation and storage facility using photovoltaic (PV) technology. The entire Project is located on land owned by the Imperial Irrigation District (IID). The Project's two generation interconnection (Gen-Tie) transmission lines are proposed from the south end of the Project site extending south across Drew Road and State Route (SR) 98 connecting to the existing Drew Switchyard located on APN 052-190-039-000. Both gen-tie lines may be underground or one may be underground and one above-ground.

The Proposed Project consists of a photovoltaic (PV) solar facility capable of producing approximately 100 MWAC on approximately 855 gross and 762.8 net farmable acres. The ultimate energy output is dependent on several variables, including off-take arrangements and the evolving efficiency of PV panels, so it is possible that the Project could generate more or less than 100 MW. The Project may be constructed at one time over approximately 18 months, or it may be built out over an approximately 10-year period. A conceptual phasing configuration is shown in Figure 2.0-3 in Chapter 2.0. A Site Plan is provided in Figure 2.0-4 in Chapter 2.0. The Applicant is requesting that a Conditional Use Permit (CUP) be issued for each of the five phases of the Project as well as an additional sixth CUP for energy storage in the southwesterly portion of the Project Area. Project phasing allows utilities greater flexibility in obtaining renewable energy to meet ratepayer needs by allowing utilities to procure smaller energy quantities phased over time.

The Applicant has filed an application for a General Plan Amendment (GPA) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project site; a Zone Change to add the RE Overlay to the Project site, a Variance, six CUPs and a Parcel Map. Each of the six CUPs may include an Operations and Maintenance (O&M) building or buildings. The Project may also include additional auxiliary facilities such as raw water/fire water storage, treated water storage, evaporation ponds, storm water retention basins, water filtration buildings and equipment, and equipment control buildings, septic system(s) and parking. The Project will also include electric and vehicular crossings of

State facilities, IID facilities and County facilities. The Project crossings will not interfere with the purpose of these Agencies' facilities (e.g., where a drain flows, the Project crossing will still allow the drain to flow). Each phase of the Project may have its own energy storage component as well as energy storage being housed within the inverters.

1.3.1 PROJECT LOCATION

The proposed Project site is located on six parcels (APNs 052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) approximately 6.5 miles southwest of the City of El Centro, California and 7.5 miles directly west of Calexico, California. The geographic center of the Project roughly corresponds with 32° 41' 13" North and 115° 40' 8" West, at an elevation of 19 feet below sea level. The Project site is generally located south of Kubler Road, east of the Westside Main Canal, north of SR 98, and west of Pulliam Road.

1.4 UNDERLYING PURPOSE AND OBJECTIVES OF THE PROPOSED PROJECT

Respond to Applicant's request to construct, operate, and eventually decommission a solar generation and storage facility that will produce the most energy from the sun at the lowest possible cost thus maximizing use of agricultural lands for renewable generation, help the State of California meet demand for clean, renewable electricity generation, and support the diversification of the economic base in Imperial County while encouraging technological innovation.

1.4.1 UNDERLYING PURPOSE

Construct and a operate a solar generation facility that will help meet the increasing demand for clean, renewable electrical power and provide economic investment and diversification of the economic base in Imperial County.

1.4.2 STATEMENT OF OBJECTIVES

The following is a list of key public benefits that are fundamental to the Project's objectives:

- To create significant lease revenue for Imperial Irrigation District ("IID") as the property owner, a public agency, which will benefit the citizens of Imperial County.
- To support the Imperial County General Plan renewable energy policies and objectives.
- To locate the Project at a location along the existing transmission system which has available capacity to deliver electricity to major load centers in California.
- To meet the terms and requirements of any Power Purchase Agreement (PPA) and Large Generator Interconnection Agreement ("LGIA") that the Applicant has or may enter into and that require it to be interconnected directly to the CAISO grid at the existing Drew Switchyard.
- To deploy a technology that is safe, readily available, efficient, and environmentally responsible.
- To generate power, and store energy in an efficient manner and at a cost that is competitive in the renewable market on sites controlled by the applicant.
- To provide an additional source of renewable energy to assist the State of California in achieving and exceeding the RPS.
- To maximize local construction jobs for a variety of trades thereby helping maximize the reduction of unemployment in the construction sector.
- To locate the Project in an area that ranks among the highest in solar resource potential in the nation, as measured by the CEC.

- To minimize potential impacts to aesthetics, health and safety and other potential environmental impacts:
  - o Locating the Project on disturbed land.
  - o Grouping or collocating the Project's proposed electrical interconnection facilities with existing or proposed electrical interconnection facilities (consistent with County conditions on similar solar generation projects), to the extent that such grouping/collocation can be accommodated.
  - o Utilizing existing infrastructure (switchyards, transmission lines, roads, and water sources) where feasible to locate the project proximate to existing electric interconnection and transmission systems in Imperial County with capacity to deliver electricity to major load centers in California.
- To diversify Imperial County's economic base.
- To provide tax revenue through sales, use and property taxes generated by development within Imperial County.

1.5 REVIEW & CERTIFICATION PROCESS

1.5.1 NOTICE OF PREPARATION

The County prepared an Initial Study (CEQA Guidelines Section 15063b (1)(A)) and subsequently published and circulated for public review and comment a Notice of Preparation (NOP) of an EIR (SCH. No. 2018051036) from May 17, 2018 through June 21, 2018 (further discussed in subsection 1.8.1). The NOP was distributed to city, county, state and federal agencies, other public agencies, and various interested private organizations and individuals to define the scope of the EIR. The NOP was also published in the Imperial Valley Press on May 16, 2018. The purpose of the NOP was to identify public agency and public concerns regarding the potential impacts of the proposed Project, and the scope and content of environmental issues to be addressed in the EIR. A public scoping meeting was held on May 24, 2018, at the Board of Supervisors meeting room. No members of the public were in attendance and no public comments were received at the public scoping meeting.

A. DRAFT EIR

The Draft EIR includes a detailed description of the proposed Project, description of the environmental setting, identification of project impacts and mitigation measures for impacts found to be significant. An analysis of Project alternatives as well as a discussion of cumulative impacts and other CEQA required considerations are also provided. Upon completion of the Draft EIR, a Notice of Completion (NOC) will be filed with the California State Office of Planning and Research (OPR) by the County of Imperial. The NOC signals the start of the public review period for the Draft EIR (CEQA Guidelines Section 15085).

B. PUBLIC NOTICE/PUBLIC REVIEW

The Draft EIR public review and comment period should be no less than 30 days and no longer than 60 days. In the case of the proposed Project, the review period will be 50 days (45-day minimum per CEQA, plus five days per County of Imperial Guidelines).

On May 13, 2019 a Notice of Completion (NOC) was filed with the State Clearinghouse for the Draft EIR, initiating the 50-day public review period of the Draft EIR document and associated technical appendices. Concurrent with filing the NOC, the County is also required to provide notice to the public, agencies, organization and other interested parties of the availability of the Draft EIR for review and comment. A

Notice of Availability (NOA) was published on May 13, 2019 in the Imperial Valley Press newspaper. In addition, the NOA was posted on the County's website and at local libraries. Public comment on the Draft EIR will be accepted in written form. Details on where to send questions or comments are provided in subsection 1.9, below. The public review and comment period closes on July 1, 2019.

C. Response to Comments/Final EIR

A Final EIR will be prepared following the public review and comment period for the Draft EIR. The Final EIR will include the County's written responses to comments on the Draft EIR received during the public review and comment period.

D. Certification of the EIR

The Final EIR will be independently reviewed and considered by the County in connection with the County's action on the Project. If the County determines to approve the Project and the Final EIR is deemed "adequate and complete," the County may certify the EIR at a public hearing. In general, the rule of adequacy holds that the EIR can be certified if it demonstrates a good faith effort at full disclosure of environmental information and provides sufficient analysis to allow decisions to be made regarding the project in terms of its environmental consequences.

Written findings would accompany a decision to approve or conditionally approve the project (CEQA Guidelines Section 15091). Likewise, a statement of overriding considerations would be prepared if necessary (CEQA Guidelines Section 15093). A Mitigation Monitoring and Reporting Program (MMRP), as described below, would also be adopted for mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment.

E. Mitigation Monitoring and Reporting Program

The County must adopt a Mitigation Monitoring and Reporting Program (MMRP) for mitigation measures that have been incorporated into or imposed upon the Project to reduce or avoid significant effects on the environment (CEQA Guidelines Section 15097). This program will be designed to ensure that these measures are carried out during project construction and operation.

The specific reporting or monitoring program required by CEQA is not required to be included in the EIR. However, any mitigation measures adopted by the County as part of the certified Final EIR will be considered as conditions of approval for the project and will be included in the MMRP to ensure and verify compliance.

1.6 AGENCY ROLES AND RESPONSIBILITIES

1.6.1 Imperial County

Lands on which Project is proposed are zoned A-2 - General Agriculture; A-2-R – General Agricultural/Rural Zone; and A-3 – Heavy Agricultural. The application for the proposed Project requests approval of a General Plan Amendment (GPA), a Zone Change and a Conditional Use Permit (CUP) in association with the proposed solar use. The Imperial County Code of Ordinances Title 9, Division 5 (Zoning Areas Established), identifies permitted uses within various zones as well as uses requiring a CUP.

Imperial County Code Section 90508.0 addresses uses in the A-2 and A-2-R zone. Per Section 90508.02, the following uses are permitted 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.

Imperial County Code Section 90509.02 addresses uses in the A-3 zone. Per Section 90509.02, the following uses are permitted subject to approval of a CUP from Imperial County: solar energy plants; and Major facilities relating to the generation and transmission of electrical energy, provided such facilities are not, under state or federal law, to be approved exclusively by an agency or agencies of the state and/or federal governments and provided that such facilities shall be approved subsequent to coordination and review with the Imperial Irrigation District for electrical matters.

The proposed Project may require the following County authorizations:

- Certification of the EIR
- Adoption of a project MMRP
- Approval of CEQA Findings pursuant to CEQA Guidelines Section 15091
- Approval of Project Site Plan
- General Plan Amendment
- Zone Change
- Variance
- Conditional Use Permits
- Parcel Map
- Lot Tie Agreements
- Development Agreement
- Grading Permits
- Construction Traffic Control Plan
- Building Permits
- Occupancy Permits

1.6.2 OTHER AGENCY REVIEWS AND/OR CONSULTATIONS

The Project would require permits and approvals from various federal, state and local regulatory agencies. The agencies, potential permits and approvals are identified below.

A. FEDERAL

UNITED STATES ARMY CORPS OF ENGINEERS

The United States Army Corps of Engineers (USACE) possesses jurisdiction over waters of the United States and jurisdictional wetlands pursuant to the federal Clean Water Act. The USACE regulates the discharge of dredge/fill material into such waters, including ditches and drains that could be jurisdictional. A Jurisdictional Delineation Report was conducted for the Project site on December 5, 2017 (included in **Appendix L** of this EIR).

UNITED STATES FISH AND WILDLIFE SERVICE

The United States Fish and Wildlife Service (USFWS) is responsible for oversight of the Federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA). Biological surveys of the area were conducted to determine if critical habitat and federally listed species are present or are expected to occur in the Project area (**Appendix L**).

B. STATE

CALIFORNIA DEPARTMENT OF TRANSPORTATION

The California Department of Transportation (Caltrans) manages and oversees the road rights-of-way owned by the State. The Project proposes a driveway for access from SR 98 and proposes to cross SR 98 with two Gen-Tie lines, all of which requires Encroachment Permit approval from Caltrans before construction of the aforementioned improvements inside the SR 98 right-of-way. Both gen-tie lines may be underground or one may be underground and one above-ground.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The California Department of Fish and Wildlife (CDFW) is responsible for overseeing the California Endangered Species Act, approving Streambed Alteration Agreements (Section 1602 of the California Fish and Game Code), and enforcing the California Native Plant Protection Act. The CDFW would take action associated with any activity where a listed candidate, threatened or endangered species under California Endangered Species Act (CESA) may be present in the Project area and a state agency is acting as lead agency for CEQA compliance. CDFW would also consider issuance of a Section 2081 incidental take permit for state-only listed species and a Section 2081.1 consistency determination for the effects on species that are both state and federally listed.

A Biological Technical Report (Dudek 2018c) and a Burrowing Owl Survey (Dudek 2018d) were prepared for the proposed Project (Both reports are included in **Appendix L** of this EIR). The Applicant will consult with CDFW prior to the start of Project construction. CDFW will review the Project for potential effects on State listed species and determine the extent of its jurisdiction under Section 1602 Streambed Alteration Agreement for impacts on drainages from construction, if applicable.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD (RWQCB), COLORADO RIVER BASIN REGION 7

The California Regional Water Quality Control Board (RWQCB), Colorado River Basin Region 7 is responsible for regulating water quality. Construction of the Project would be covered under General Permit for Discharges of Storm Water Associated with Construction Activity (NPDES No. CAS000002) (Construction General Permit Order 2010-2014-DWQ, effective February 14, 2011). The permit requires the Applicant to file a public Notice of Intent (NOI) to discharge stormwater and to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

The California Department of Toxic Substances Control (DTSC) oversees toxic substances procedures and remediation. If the Project is required to submit a Hazardous Materials Management Plan, a Spill Containment, Countermeasure, and Control (SPCC) Plan and/or Hazardous Materials Transportation Plans, DTSC would be responsible for review of these documents.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The California Environmental Protection Agency (CalEPA) oversees various aspects of environmental protection throughout the State. CalEPA will be among the agencies that will be noticed during the public review period and have the opportunity to comment on the Project.

CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION

The California Native American Heritage Commission (NAHC) strives for the preservation and protection of Native American human remains and associated grave goods. The NAHC recommended that the County of Imperial consult with the appropriate California Native American Tribes. The County has performed the necessary consultation.

CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

The California Occupational Safety and Health Administration (CalOSHA) is responsible for protecting workers and the public from safety hazards. CalOSHA will review the Hazardous Materials Management Plan or Program, as applicable.

C. LOCAL

IMPERIAL IRRIGATION DISTRICT

The Imperial Irrigation District (IID) owns and operates the raw water canal system, drainage system and electrical grid in Imperial and Coachella Valleys. IID is responsible for maintaining its water and energy facilities so that it may service its customers. The Project must obtain rights from IID for the Project to encroach into IID canal, drain and electrical rights-of-way. The Project must obtain approval from IID for water service from IID canals and electrical service from the IID electrical distribution system and obtain backfeed and station service agreements with IID.

IMPERIAL COUNTY DEPARTMENT OF PUBLIC WORKS

The Imperial County Department of Public Works (ICDPW) manages and oversees the road rights-of-way owned by Imperial County and regulates the approval of project storm water design within the unincorporated Imperial County. The Project proposes driveways for access form Drew Road, Pulliam Road and Kubler Road, which require ICDPW Encroachment Permit approval. The Project must also obtain approval of grading and civil improvement plans and traffic control plans from ICPDW.

IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT

The Imperial County Air Pollution Control District (ICAPCD) is responsible for enforcing air emission requirements to protect public health in the County. These requirements apply to various activities including construction, and operational activities associated with various land uses. The Project will prepare a Dust Control Plan to comply with Rule 801 of Imperial County's Rules and Regulations for Construction and Earthmoving Activities. The Project would also be subject to the ICAPCD's Rule 310 Operational and Development Fees.

IMPERIAL COUNTY FIRE DEPARTMENT

The Imperial County Fire Department would provide fire protection service to the Project. The Department received a copy of the NOP and was consulted during preparation of this EIR. The Department will review the Project including the final design of the proposed fire safety system and to ensure adequacy of emergency access and circulation.

IMPERIAL COUNTY SHERIFF'S OFFICE

The Imperial County Sheriff's Office would provide law enforcement service to the Project, as necessary. The Office received a copy of the NOP and will review the Project, including the final design, for adequate emergency access. The Office was also consulted for input during preparation of this EIR.

1.7 RELATIONSHIP TO STATUTES, REGULATIONS AND OTHER PLANS

1.7.1 STATE

A. RENEWABLES PORTFOLIO STANDARD PROGRAM

The California RPS program was established in 2002 by Senate Bill (SB) 1078 (Sher, 2002) with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2006 under SB 107 (Simitian, 2006), which requires that the 20% mandate be met by 2010. In April 2011, SB 2 (1X) (Simitian) was signed into law, which codified a 33% RPS requirement to be achieved by 2020. In 2015, SB 350 (de León, 2015) was signed into law, which mandated a 50% RPS by December 31, 2030. SB 350 include interim annual RPS targets with three-year compliance periods. In addition, SB 350 requires 65% of RPS procurement must be derived from long-term contacts of 10 or more years. In 2018, SB 200 (de León, 2018) was signed into law, which again increases the RPS to 60% by 2030 and requires all state's electricity to come from carbon-free resources by 2045. SB 100 became effective on January 1, 2019.

The California Public Utilities Commission (CPUC) implements and administers RPS compliance rules for California's retail sellers of electricity, which include large and small investor-owned utilities (IOU), public owned utilities (POUs), electric service providers (ESP) and community choice aggregators (CCA). The California Energy Commission (CEC) is responsible for the certification of electrical generation facilities as eligible renewable energy resources and adopting regulations for the enforcement of RPS procurement requirements of POUs.

B. California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32

This California Global Warming Solutions Act of 2006 "AB 32" (Statutes 2006; Chapter 488; Health and Safety Code Sections 38500 et. seq) requires the California Air Resources Board (CARB) to prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in green-house gas (GHG) emissions from sources or categories of sources of GHGs by 2020, and update the Scoping Plan every five years; maintain and continue reductions in emissions of GHG beyond 2020; identify the statewide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020; identify and adopt regulations for discrete early actions that could be enforceable on or before January 1, 2010; adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG emissions; convene an Environmental Justice Advisory Committee to advise CARB in developing and updating the Scoping Plan and any other pertinent matter in implementing AB 32; and appoint an Economic and Technology Advancement Advisory Committee to provide recommendations for technologies, research and GHG emission reduction measures.

C. Senate Bill 32 (2016 Pavley)

Senate Bill 32 expanded upon the requirements of the California Global Warming Solutions Act of 2006 by requiring the California Air Resources Board to ensure that statewide GHG emissions are reduced to 50% below the 1990 level by 2030.

D. Title 17 California Code of Regulations (CCR)

Title 17 CCR, Subchapter 20, Article 2, Sections 95100 et seq. are CARB regulations that implement mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006.

E. California Endangered Species Act

The California Endangered Species Act (CESA) is codified beginning at Fish and Game Code Section 2050. This Section prohibits "take" of any species listed as an endangered or 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 activity through take authorization issued by CDFW. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species. Early consultation is also helpful in developing appropriate mitigation to offset losses of listed species populations and their essential habitats. The Applicant will consult with the CDFW regarding any issues arising under CESA.

F. California Lake and Streambed Program

The CDFW is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. The California Lake and Streambed Program (Fish and Game Code Sections 1601 to 1603) requires an entity to notify CDFW prior to constructing any project that would divert, obstruct or change the natural flow, bed, channel, or bank of any river, stream, or lake. CDFW is required to propose reasonable project changes and/or mitigation to protect the resource in cases where an existing fish or

wildlife resource may be substantially adversely affected. Changes or mitigations are formalized in a Streambed Alteration Agreement between CDFW, the County and the Project owner.

1.7.2 LOCAL

A. IMPERIAL COUNTY GENERAL PLAN AND LAND USE ORDINANCE

The Imperial County General Plan provides guidance on future growth in the County. Any development within the jurisdiction of the County must be consistent with the General Plan and the Land Use Ordinance (Title 9, Division 2).

B. IMPERIAL COUNTY AIR POLLUTION CONTROL DISTRICT

The ICAPCD will review the proposed Project for consistency with the ICAPCD CEQA Air Quality Handbook, the 1991 Air Quality Attainment Plan, and the State Implementation Plan for PM_{10} in the Imperial Valley.

1.8 PUBLIC PARTICIPATION OPPORTUNITIES/ COMMENTS AND COORDINATION

Imperial County conducted a scoping process to fulfill the intent and requirements of CEQA Guidelines Section 15082 (described in detail under subsection 1.8.2, below), including a scoping meeting held on May 24, 2018 at the Board of Supervisors meeting room to gather input from the public. No members of the public attended the meeting and no public comments were received.

1.8.1 NOTICE OF PREPARATION

The Notice of Preparation (NOP) for the Drew Solar Project EIR was issued by the Imperial County Department of Planning and Development Services on May 17, 2018. Seven letters were received in response to the NOP from various agencies and individuals. A list of the letter writers and summary of the areas of concern or issue raised in these letters is summarized in **Table 1.0-1**. The NOP and written comments received during the public review period for the NOP are included on the attached CD of Technical Appendices as **Appendix A** of this EIR.

TABLE 1.0-1
SUMMARY OF NOP COMMENTS

Agency/Individual	Issue Noted or Area of Controversy
Scott Morgan, Director State Clearinghouse	NOP routed to responsible agencies for comment. 30-day response period.
Gayle Totton, M.A. Ph.D. Associate Governmental Analyst Native American Heritage Commission	• Lead agency will need to determine if there are historical resources within the area of potential effect. • Both SB 18 and AB 52 have tribal consultation requirements. • NAHC recommends that lead agencies consult with all California Native American tribes that are traditionally and culturally affiliated with the geographic area of the Project. • NAHC provides recommendations for Cultural Resources Assessments. *The above issues are addressed in Section 4.7, Cultural Resources & Tribal Cultural Resources.*

TABLE 1.0-1
SUMMARY OF NOP COMMENTS

Agency/Individual	Issue Noted or Area of Controversy
Sheila Sannadan, Legal Assistant Adams Broadwell Joseph & Cardozo	Public Records Act Request for Drew Solar Project on behalf of California Unions for Reliable Energy.
Jacob Armstrong, Branch Chief Local Development and Intergovernmental Review Branch California Department of Transportation	• Notes that a focused traffic analysis may be required. • Access points off of SR 98 are allowed only if applicant can demonstrate that there are no other reasonable alternatives. • A Traffic Management Plan may be required prepared in accordance with Caltrans' *Manual on Uniform Traffic Control Devices.* • Modifications to existing drainage an increase in runoff to State facilities will not be allowed. • Glint and Glare Analysis documenting potential impacts to motorists on SR-98 should be prepared and provided to Caltrans. • Traffic control for utility work associated with construction of Gen-Tie lines extending south across Drew Road and SR-98 may require traffic control in accordance with Caltrans Standard Plans and the California Manual on Uniform Traffic Control Devices. • Special permits may be required from Caltrans to move or operate a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. • Work within Caltrans Right-of-Way will require discretionary review, approval and an encroachment permit. *The above issues are addressed as appropriate in Section 4.1 Aesthetics and 4.3 Transportation.*
Axel Salas, APC Environmental Coordinator Imperial County Air Pollution Control District	• Notes that current status of criteria pollutants and references Section 6 of the CEQA Handbook for details on preparing an Air Quality Analysis. • Notes that renewable energy projects tend to cause high levels of NOx emissions and PM10 during construction. • Requests that a Tier I Preliminary analysis be conducted to assess the level of significance of potential impacts. • A Construction Equipment List should be provided to the APCD in Excel format.

TABLE 1.0-1
SUMMARY OF NOP COMMENTS

Agency/Individual	Issue Noted or Area of Controversy
Axel Salas, APC Environmental Coordinator Imperial County Air Pollution Control District	• An Operational Dust Control Plan is required to detail how dust emissions will be controlled and maintained during the operational phase of the project. • Compliance with Regulation VIII is required for all construction activities as well as notification 10 days prior to the commencement of all construction activities. *The above issues are addressed in Section 4.4, Air Quality.*
Monique Wilber, Conservation Program Support Supervisor California Department of Conservation	• Notes that the conversion of agricultural land represents a permanent reduction and significant impact to the State's agricultural land resources. • All mitigation measures that are potentially feasible should be included in the DEIR. • The Department advocates the use of permanent agricultural conservation easements on land of at least equal quality and size as mitigation for the loss of agricultural land. • Recommends items for discussion in the Agricultural Resources Section of the DEIR including the type of farmland converted, impacts on current and future agricultural operations, incremental and cumulative impacts on agricultural land and proposed mitigation. *The above issues are addressed in Section 4.9, Agricultural Resources.*
Donald Vargas, Compliance Administrator II Imperial Irrigation District	• Refers to letter previously submitted on January 19, 2018. • The Applicant should contact IID for temporary construction electrical service and permanent electrical service to the on-site substation and battery storage facility. • A circuit study may be required before IID can commit to serve the project. • The following IID water facilities may be impacted: Westside Main Canal; Wormwood Canal; Wormwood Lateral 1; Woodbine Lateral 7; Mount Signal Drain; Mount Signal Drain No. 1A; Mount Signal Drain No. 1; Carr Drain; and Carpenter Drain. • Notes that a comprehensive IID hydraulic drain system analysis will be required.

TABLE 1.0-1
SUMMARY OF NOP COMMENTS

Agency/Individual	Issue Noted or Area of Controversy
Donald Vargas, Compliance Administrator II Imperial Irrigation District	• To avoid impacts to IID water facilities, County of Imperial grading, drainage and fencing plans should be submitted to the IID Water Engineering Section. • The IID South End Division would be contacted to obtain construction water. • The Applicant will be required to secure a Water Supply Agreement with the IID Water Department. • IID canal or drain banks may not be used to access the Project site. • Abandonment of easements must be approved by IID. • Construction on IID property requires and encroachment permit. IID should be consulted prior to the installation of any facilities adjacent to IID's facilities. • New, relocated modified or reconstructed IID facilities need to be included as part of the Project's CEQA documentation. Mitigation is the responsibility of the Applicant. • IID suggests electrical service be included under the Environmental Factor titled "Utilities/Service Systems" of the checklist. *The above issues are addressed in Section 4.13, Public Services and Utilities*
Stephan C. Volker	• Urges County to maintain renewable energy overlay boundaries that exclude the Project site. • Contends that transmission and storage use are forbidden by the Imperial County General Plan Land Use Element. • Asserts that the Imperial County General Plan forbids the proposed solar energy generation, storage and transmission uses (lands designated as "Agriculture" can only be used for Agricultural uses). • Asserts that the proposed zoning change is forbidden by the Imperial County General Plan Land Use Element (M-2 zoning is incompatible with the Agricultural land use designation). [*Note: The Applicant is no longer pursing a Zone Change to M-2*]. • States that the proposed Project contravenes the Imperial County General Plan Agricultural Element

TABLE 1.0-1
SUMMARY OF NOP COMMENTS

Agency/Individual	Issue Noted or Area of Controversy
	• States that the EIR must provide a full and accurate Project Description • States that the EIR must analyze the full range of project impacts (fire, agricultural, greenhouse gases, biological resource and land use and planning). • States that the Project must analyze a full range of Alternatives. *These issues are discussed as appropriate throughout the EIR including Section 4.2 Land Use, Section 4.9, Agricultural Resources and Section 5.0 Alternatives.*

1.8.2 SCOPING MEETING

In keeping with the provisions of CEQA Guidelines Section 15083 Early Public Consultation, a public scoping meeting was held for the proposed Project to solicit input on the scope and content of the EIR. The scoping meeting conducted by Imperial County as the lead agency and took place on May 24, 2018 at 6 p.m. at the Board of Supervisors meeting room. No members of the public attended the meeting and no comments were received.

The County also sent the NOP to responsible agencies (e.g., Imperial County Sheriff's Office) to provide input on the Project during the 30-day comment period (May 17 – June 21, 2018). The County also sent AB 52 and SB 18 letters requesting consultation to tribes known to have an interest in the area. The Campo Band of Mission Indians requested consultation under AB 52 and the Augustine Band of Cahuilla Indians responded to the request to consult under SB 18.

1.8.3 AIRPORT LAND USE COMMISSION MEETING

The Project was presented to the ALUC at a meeting on June 24, 2018. The Project was found to be consistent with the ALUCP.

1.9 AVAILABILITY OF REPORTS

This Draft EIR, appendices, and documents incorporated by reference are available for public review at the Imperial County 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, 1140 North Imperial Avenue, California. Documents at these locations may be reviewed during regular business hours. This document is available for review online at the ICPDSD website: http://www.icpds.com.

All comments on the Draft EIR should be directed to:
Diana Robinson, Planner III - DianaRobinson@co.imperial.ca.us
Imperial County Planning & Development Services
801 Main Street, El Centro, CA 92243

Comments received during the public scoping meeting were reviewed and addressed in this Draft EIR. The Draft EIR will be reviewed by the Imperial County Planning Commission and Board of Supervisors as part of the procedure to adopt the EIR. Additional information on this process may be obtained by contacting the ICPDSD at (442) 265-1736.

1.10 STRUCTURE OF THIS EIR

1.10.1 DRAFT EIR

The structure of this Draft EIR is identified in the Table of Contents and further explained in the beginning of Chapter 4.0, Environmental Analysis. The Draft EIR is organized into nine Chapters and the Executive Summary.

Executive Summary. This chapter provides a summary of the proposed Project, including a summary of Project impacts, mitigation measures, and alternatives to the proposed Project.

Chapter 1.0 - **Introduction.** This chapter explains the purpose of the document; provides a summary of the background, terminology and overview of the proposed Project; identifies the purpose and objectives of the Project; explains the review and certification process; identifies agencies responsible for review and/or consultation regarding the Project; explains the Project's relationship to statutes, regulations and other plans; identifies public participation opportunities and summarizes comments received on the NOP; provides information regarding the availability of reports; and, outlines the structure of the document.

Chapter 2.0 - **Project Description**. This chapter provides a detailed description of the proposed Project and its various components; identifies the Project's location and land ownership; specifies the General Plan and zoning designations; provides details regarding the Project's construction, operation, and decommissioning/reclamation; identifies alternatives under consideration; and, explains the intended uses of the EIR and authorizing actions.

Chapter 3.0 – Introduction to the Environmental Analysis and Assumptions Used. This chapter introduces the environmental impacts analyses and general assumptions used in the Project-specific and cumulative analyses contained in Sections 4.1 thru 4.14. It also describes the approach used in the General Plan consistency analysis.

Chapter 4.0 – Environmental Analysis. This chapter provides a brief overview of the thirteen resource areas determined for inclusion in the EIR by the Initial Study. This chapter also orients the reader to the order of the sections and format of the analysis.

Section 4.1 – Aesthetics. This section examines the potential change in aesthetic character measured against the existing setting and visual conditions of the Project site and surrounding area. Project visibility, scale, and potential glare are considered relative to the existing aesthetic context. This section includes findings of the Glare Study prepared for the Project.

Section 4.2 – Land Use. This section focuses on the potential impacts on, and conflicts with, land use that may result from development of the proposed Project. This section also evaluates the consistency of the Project with the County of Imperial General Plan, zoning, and other applicable plans or documents. It also analyzes the proposed GPA, Zone Change, Variance and CUPs.

Section 4.3 – Transportation. This section identifies existing traffic volumes and roadway segment levels of service along surrounding roadways as well as segments of SR 98 and Interstate 8. The analysis examines potential impacts on surrounding intersections, project driveways, roadway, State Route and Interstate segments during construction and operation. This section is based on a Traffic Impact Analysis prepared for the proposed Project.

Section 4.4 – Air Quality. This section describes existing air quality in the region. It also addresses the requirements of the ICAPCD and analyzes local and regional air quality impacts associated with Project implementation including short-term construction impact (grading, etc.), as well as long-term operational emissions. This section is based on construction, operational and decommissioning air pollutant emissions identified in the Air Quality and Greenhouse Gas Analysis prepared for the proposed Project.

Section 4.5 – Greenhouse Gases. This section describes the existing setting and regulatory conditions of the County of Imperial and surrounding area in terms of Greenhouse Gases (GHGs) and climate change. Potential increases in GHG emissions or factors that would affect climate change as a result of implementation of the proposed Project are discussed. This section is based on CO2 emissions modeled for construction, operation and decommissioning of the proposed Project.

Section 4.6 – Geology and Soils. This section describes the current setting of the Project seismically and geologically. Engineering constraints and general soil suitability for the proposed Project are discussed. The potential for paleontological resources is also assessed. This section is based on a Preliminary Geotechnical Report and the Phase I Environmental Assessment prepared for the Project.

Section 4.7 – Cultural Resources & Tribal Cultural Resources. This section describes the setting of the Project site with regard to cultural and historic resources. The analysis is based on the findings of a cultural resource survey conducted for the Project and correspondence with tribes contacted in accordance with the requirements of SB 18 and AB 52. Potential resources are assessed for significance and potential for damage as a result of implementing the proposed Project. Correspondence with the Tribes is also discussed in this section of the EIR.

Section 4.8 – Noise. This section explains noise terminology and describes the existing noise setting of the Project site and surrounding area. The discussion includes an analysis and potential Project noise impacts resulting from construction, operation, and decommissioning/reclamation.

Section 4.9 – Agricultural Resources. This section describes the agricultural setting of the County, Project area, and past agricultural activities on a portion of the Project site. The analysis focuses on potential impacts of the conversion of land that has been historically farmed using the results of the Land Evaluation and Site Assessment model.

Section 4.10 – Hazardous and Hazardous Materials. This section examines the potential presence of hazardous materials based on and historical agricultural operations conducted on the Project site. Potential impacts and mitigation measures are identified. This section is based on the Phase I Environmental Assessment prepared for the Project site.

Section 4.11 – Hydrology and Water Quality. This section describes the current drainage of the Project site and assesses potential impacts of the proposed Project on hydrology, storm drainage, and water quality. The analysis discusses drainage patterns, storm drainage runoff, potential flooding impacts and proposed stormwater retention based on the conceptual drainage study and storm water quality analysis prepared for the Project.

Section 4.12 – Biological Resources. This section describes the existing and potential biological resources on and in the vicinity of the Project site. Potential impacts to plants and wildlife including listed, proposed, candidate threatened and endangered species are examined. This section is based on the findings of the Biological Resources Report, Burrowing Owl Survey and Jurisdictional Wetland Delineation prepared for the Project.

Section 4.13 – Public Services and Utilities. This section discusses public services and utilities that would serve the Project site. Public services include fire protection and law enforcement. Public utilities include water service, wastewater service, solid waste, electricity, and telecommunications (telephone/internet). The use of IID water as the water supply is also discussed based on the Water Supply Assessment prepared for the Project. This section is based on consultation with appropriate service providers and information provided by the Applicant.

Section 4.14 – Energy. This chapter provides a discussion of energy usage and conservation, associated with construction, operation and reclamation of the proposed Project.

Chapter 5.0 – Alternatives. This chapter qualitatively analyzes impacts associated with alternatives to the proposed Project relative to impacts resulting from the proposed Project. A summary matrix of impacts for each issue area is included to facilitate comparison of each alternative relative to the proposed Project (greater, same, worse).

Chapter 6.0 – Other CEQA Required Considerations. This chapter provides a discussion of socio-economic impacts, significant and unavoidable environmental effects, growth-inducing impacts, significant irreversible environmental changes, and mandatory findings of significance.

Chapter 7.0 – EIR Preparers. This chapter lists all the individuals involved in the preparation of the EIR.

Chapter 8.0 – References. This chapter lists the data references used in preparing the EIR as well as the individuals and agencies consulted and cited in the text.

1.10.2 APPENDICES

The supporting documentation (NOP, Initial Study and Comment Letters, AB 52 and SB 18 Letters) and technical reports for aesthetics (Glare Study); agricultural resources (LESA Model); air quality (Air Quality and Greenhouse Gas Analysis); biological resources (Biological Resources Report, Burrowing Owl Survey and Jurisdictional Wetland Delineation); cultural resources (Cultural Inventory Report); geology/soils (Preliminary Geotechnical Report); greenhouse gas emissions (Air Quality and Greenhouse Gas Analysis); hazards and hazardous materials (Phase I Environmental Site Assessment); hydrology and water quality (Conceptual Drainage Study and Storm Water Quality Analysis); noise (Noise Analysis); and, transportation (Draft Traffic Analysis) are provided on the CD attached to this Draft EIR. These documents and reports are referenced throughout this EIR. Incorporation by reference is permitted by Section 15150 of the CEQA Guidelines. Other documents, reference sources, and individuals cited in the preparation of this Draft EIR are identified in Chapter 8.0, References. The baseline physical conditions as analyzed in these reports are the conditions that existed at the time of the issuance of the NOP for the EIR (CEQA Guideline Section 15125 (a)).

1.11 ISSUES TO BE ADDRESSED

The issues evaluated in this EIR include the physical, biological, cultural, and other resources that have the potential to be affected by activities related to the proposed Project. The issues were identified through the preparation of an Initial Study:

- Aesthetics
- Land Use
- Transportation
- Air Quality
- Greenhouse Gases
- Geology and Soils
- Cultural Resources & Tribal Cultural Resources
- Noise
- Agricultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Biological Resources
- Public Services and Utilities
- Energy

1.12 ISSUES SCOPED OUT FROM FURTHER ENVIRONMENTAL REVIEW

The Initial Study for the proposed Drew Solar Project prepared by the County of Imperial concluded that the Project would not cause significant impacts related to various topics addressed in the CEQA

Environmental Checklist (included in **Appendix A** of this EIR). Therefore, these topics are not addressed further in this EIR. The reasons for concluding that no significant impacts would occur related to these topics are disclosed in the Initial Study, which was distributed with the NOP from May 17 thru June 21, 2018. CEQA Environmental Checklist topics not addressed in this EIR, and the rationale for exclusion, are identified below:

Aesthetics

- *Substantially damage scenic resources, including, but limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

The Project site includes six parcels owned by the Imperial Irrigation District (IID). The site is in agricultural production and does not contain any scenic resources including trees, rock outcroppings or historic buildings. Likewise, SR 98 is not a Scenic Highway. Therefore, no impact is anticipated and impacts to resources within a state scenic highway will not be further discussed in the EIR.

Agriculture and Forestry Resources

- *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 511 04(g))?*

Based on the Imperial County General Plan, Conservation and Open Space Element, mixed chaparral, pinyon-juniper habitats, and the montane hardwood-conifer forest are located in restricted areas of the County. Mixed chaparral and pinyon-juniper habitats are located in the extreme southwestern corner of the County and montane hardwood-conifer forest is in the extreme northwestern corner of Imperial County. Thus, there are no existing forest lands, timberlands, or timberland zoned Timberland Production either on or near the Project site that would conflict with existing zoning. This issue will not be discussed further in the EIR.

- *Result in the loss of forest land or conversion of forest land to non-forest use?*

There are no existing forest lands either on-site or in the immediate vicinity of the Project site. The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore, no impact is identified for this issue area.

Geology and Soils

- *Landslides*

The site exhibits a generally flat topography and no landslides exist within or near the site. Based on the topography across the site, the potential for landsliding is considered negligible (LandMark 2018). Thus, no impact is identified for this issue area and it will not be further discussed in the EIR.

Hazards and Hazardous Materials

- *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

The Project site is not located within one-quarter mile of an existing school. No impact would occur.

- *Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

An Agency Database Record Search was undertaken of available compiled agency database records as part of the Phase I Environmental Assessment (LandMark 2018). Based on the information available, the

Project site is not located on a hazardous materials list pursuant to California Government Code Section 65962.5. No impact is identified for this issue area.

- *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The Project site is not located within two miles of a public airport or a private airstrip. The Johnson Brothers Airport is approximately 5.75 miles east of the Project site and the Naval Air Facility El Centro is approximately 8 miles to the north. Based on the distance of the project site from these air facilities, no safety hazard or excessive noise exposure would occur for Project construction or operation workers. Thus, no impact is identified for this issue.

- *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

As identified in the Seismic and Public Safety Element of the County of Imperial General Plan (County of Imperial, n.d.), the "Imperial County Emergency Plan" addressed the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the Project site will be required to provide emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Thus, the proposed Project would not impair the implementation of, or physically interfere with, any adopted emergency response plans or emergency evacuation plans. No impact is identified for this issue area.

- *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

The Project site is not characterized as an urban/wildland interface. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (CDF 2000), the Project site does not fall into an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) a very high fire hazard severity zone. Thus, the Project site would not expose people or structures, either directly or indirectly, to significant risk of loss injury or death involving wildland fire. No impact is identified for this issue area.

Land Use

- *Physically divide an established community?*

The Drew Solar Project is located in Imperial County, California, approximately 6.5 miles southwest of the city of El Centro and 7.5 miles directly west of Calexico. The project represents an expansion of existing solar uses currently developed in the area. Thus, no impact is identified with regard to dividing an established community.

Mineral Resources

- *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- *Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

The Project site has been used for agriculture since the 1930's. According to the Conservation and Open Space Element of the County of Imperial General Plan (County of Imperial 2008), no known mineral resources occur within the Project parcels nor are there any mapped mineral resources within the boundary of the site. Thus, no impact is identified with regard to mineral resources.

Noise

- *For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The Project site is not located within two miles of a public airport or a private airstrip. Thus, the Project site would not be exposed to excessive aircraft noise. As a solar facility, the Project is industrial in nature and therefore is not a noise sensitive land use. No impacts are identified with regard to airport noise and this issue will not be further discussed in the EIR.

Population and Housing

- *Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example through extension of roads or other infrastructure)?*

The Project does not propose the development of new housing on the Project site nor does it propose construction or extension of new roads (aside from internal access roads). The Project is a solar energy generation and storage facility that would not induce growth. No impact would occur for this issue.

- *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The proposed Project site is currently agricultural land with no residential structures within its boundaries. As a result, development of the proposed solar energy generation and storage project would not displace substantial numbers of existing housing or people requiring construction of replacement housing elsewhere. No impact would occur for these issues.

Public Services

- *Schools, Parks and Other Public Facilities*

The proposed Project would not result in a substantial increase in population because it neither includes a residential component nor would it generate the need for new housing to accommodate workforce population. Based on the nature of the project as a solar facility, no increase in schools, parks, or other public facilities are anticipated. As such, the proposed Project would not have an adverse physical effect on the environment resulting from construction of a new school, park or other public facility. Therefore, no impact is identified for this issue area.

Recreation

- *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?*

The proposed Project is a solar facility and would not create a demand for recreation or parks in the County. Thus, no impact is identified for these issues and recreation will not be discussed further the EIR.

- *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment?*

The proposed Project is a solar facility and does not include recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impact to recreational facilities would occur and this issue will not be discussed further the EIR.

Utilities and Service Systems

- *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The Project will generate wastewater from sanitary facilities such as sinks and toilets in the O&M building(s). This waste stream will be sent to an onsite sanitary waste septic system and leach field to be installed in compliance with standards established by Imperial County Environmental Health Services. Thus, no impact to a wastewater provider would occur.

Wildfire

- *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

As identified in the Seismic and Public Safety Element of the County of Imperial General Plan (County of Imperial, n.d.), the "Imperial County Emergency Plan" addressed the County's planned response to extraordinary emergency situations associated with natural disasters such as wildfire. The proposed circulation plan for the Project site will be required to provide emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize fire hazard. The Applicant is proposing to develop and implement a Fire Prevention and Response Plan (FPRP) during construction, operation, and maintenance of the Project. Thus, the proposed Project would not impair the implementation of, or physically interfere with, any adopted emergency response plans or emergency evacuation plans. No impact is identified for this issue area.

- *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

According to the Draft Fire Hazard Severity Zones in the Local Responsibility Area Map prepared by the California Department of Forestry and Fire Protection in 2007 (CDF 2007), the following APNs are designated to as a Moderate Fire Hazard Severity Zone (052-170-031, 052-170-032, 052-170-056, 052-170-0370; one parcel is designated Other Unzoned (052-170-067). The Project Area is flat and does not have permanent occupants, only maintenance workers. The nearest high fire hazard severity zones are approximately 20 miles to the west.

- *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The proposed Project includes installation and maintenance of transmission lines, battery storage and PV modules. During operation, batteries would be housed in buildings or storage containers with proper temperature monitoring and fire suppression systems. The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, routine weed abatement and landscape maintenance will occur. As such, the Project represents a negligible increase in fire potential. Water for fire protection will be stored in a 10,000-gallon tank onsite. Thus, installation of the proposed Project is not anticipated to have an impact with regard to exacerbating a fire risk that may result in temporary or ongoing impacts to the environment. No impact would occur with regard to this issue.

- *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

As previously noted, the topography of the Project Area is flat and potential for wildfire is not high. As a result, there is no threat of downslope or downstream flooding or landslides. Thus, no impact would occur with regard to this issue.

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CHAPTER 2.0
PROJECT DESCRIPTION

The term Project refers to construction, operation, and decommissioning of the solar field and energy storage site parcels, two Gen-Tie lines, improvements at the existing Drew Switchyard and other on-site and off-site ancillary features as described in the Project Description under either the Phased CUP Scenario or Full Build-out Scenario with up to approximately 855 gross and 762.8 net farmable acres of disturbance. The term CUPs refers to an individual CUP (i.e. CUP#17-0031), multiple CUPs (i.e. CUP#17-0031, CUP#17-0032 and CUP#17-0033) or all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) as appropriate. The term Solar Energy Center refers to the area developed within each CUP with PV panels, collector lines, inverters and pad mounted transformers, substation(s) and switchyard(s), energy storage, O&M building, etc. The term Solar Field Site Parcels refers to the six parcels (APNs 052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) which are currently flat crop farm fields where the PV panels and associated solar and energy storage equipment are proposed for development as CUP#17-0031 thru CUP#17-0035 and CUP#18-0001.

2.1 INTRODUCTION

This chapter of the Environmental Impact Report (EIR) describes the Drew Solar Project ("Project" or "Proposed Project") proposed by Drew Solar, LLC. The Project is a proposal to build an approximately 100-mega-watt (MW) alternating current (AC) solar generation facility using photovoltaic (PV) technology. The entire Project is located on land owned by the Imperial Irrigation District (IID) except for the Project's two generation interconnection transmission lines (Gen-Tie Lines or Gen-Ties) which are proposed to extend from the south end of the Project site approximately 400 feet south across Drew Road and State Route (SR) 98 connecting into the existing Drew Switchyard located on APN 052-190-039-000. One gen-tie is for solar generation and one is for energy storage. Both gen-tie lines may be underground or one may be underground and one above-ground. The term "Project Site" refers individually or collectively to the six parcels (052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) on which the Project is proposed. The term Project Area refers to the area encompassed by all six CUPs as well as the two Gen-Tie lines and other off-site ancillary facilities.

The Proposed Project consists of a photovoltaic (PV) solar facility capable of producing approximately 100 MWAC to be sited on approximately 855 gross and 762.8 net farmable acres. The ultimate energy output is dependent on several variables, including off-take arrangements and the evolving efficiency of PV panels, so it is possible that the Project could generate more or less than 100 MW. As discussed in Section D, below, the Project may be constructed at one time over approximately 18 months, or it may be built out over an approximately 10-year period. The Applicant is requesting that a Conditional Use Permit (CUP) be issued for each of the five phases of the Project as well as an additional sixth CUP for energy storage in the southwesterly portion of the Project Area. The development of the Project in phases allows greater flexibility in marketing renewable energy to meet ratepayer needs by allowing utilities to procure smaller energy quantities phased over time.

The Applicant has filed an application for a General Plan Amendment (GPA) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project site; a Zone Change to add the RE Overlay to the Project site; a request for a Development Agreement; a request for up to five Lot Tie Agreements; a Variance application for power pole height; six CUP applications; and a Parcel Map application. Please refer to subsection C (Project Components) below for a discussion of all Project components.

2.1.1 PROJECT BACKGROUND

For the last two decades, California has emerged as a leader in promoting policies designed to grow the State's portfolio of renewable energy generation and use. Most recently, California passed two bills further increasing the State's commitment to reductions in greenhouse gas emissions through reductions in fossil fuels and increases in renewable energy: Senate Bill (SB) 350 requiring retail sellers and publicly owned utilities to procure half of their electricity from renewable sources by 2030. This requirement is known as the Renewable Portfolio Standard

or "RPS." In 2016, the Legislature passed SB 32, which codifies a 2030 greenhouse gas emissions reduction target of 40 percent below 1990 levels. According to Greentech Media, reaching such high amounts of variable renewable generation all but requires a wider build-out of storage capacity to give the grid more control over when wind and solar power is consumed.

The California legislature has passed several bills recently to help expand and expedite the amount of energy storage that is connected to California's electric grid. Newly signed AB 2861 authorizes the CPUC to create an independent dispute-resolution panel, staffed by electrical systems experts. Their job is to evaluate a disputed interconnection fee, gathering input from both sides and ruling on the case within 60 days. AB 2868 is aimed at increasing the overall size of the storage market by directing utilities to deploy up to 500 megawatts (MW) of additional storage capacity, of which no more than a quarter can be behind-the-meter. AB 33 declares the legislature's wish that the CPUC pay extra attention to long-duration storage for the grid. "The commission, in coordination with the Energy Commission, shall, as part of a new or existing proceeding, evaluate and analyze the potential for all types of long-duration bulk energy storage resources to help integrate renewable generation into the electrical grid," the law says. The CPUC's ruling comes after years of work jump-started by a 2010 state law, Assembly Bill 2514, which originally called for the statewide energy storage mandate of 1.3 GW to enable a "market transformation" for these new technologies. On June 10, 2013, CPUC Commissioner Peterman's Assigned Commissioner's Ruling stated "Energy storage has the potential to transform how the California electric system is conceived, designed, and operated. In so doing, energy storage has the potential to offer services needed as California seeks to maximize the value of its generation and transmission investments: optimizing the grid to avoid or defer investments in new fossil-power plants, integrating renewable power, and minimizing greenhouse emissions."

The Applicant is proposing to construct, operate and decommission a solar generation and energy storage facility on approximately 855 gross and 762.8 net farmable acres (inclusive of solar field, energy storage, project substation(s), roads, retention basins, etc.) located in southern Imperial County, California. A fundamental challenge posed by solar energy is that peak supply does not consistently coincide with peak demand times (e.g., 5:00 – 9:00 p.m.). Energy storage is a rapidly developing technology that can help balance supply and demand by capturing and storing renewable energy generated during daylight hours for peak evening demand. Energy storage, where available, reduces reliance on fossil fuels and furthers California's RPS policies by providing for better integration of locally-sourced solar and wind generation and RPS requirements.

The ICPDS Department received the following applications submitted by the Applicant dated December 28, 2017, January 8, 2018, July 5, 2018, July 31, 2018, August 28, 2018, January 22, 2019.

- Amendment (GPA#17-0006) to the Imperial County General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site;
- Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project Site;
- Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project Site (APNs: 052-170-039-000 and 052-170-067-000), including APN 052-170-030 to the north of the Project Site as part of the Parcel Map;
- Five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034 and CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02;
- One CUP (CUP#18-0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 & A-3). Said energy storage would be removed at the time of removal of associated solar facility;

- Variance (V#17-0003) for power pole structures that are over 120 feet in height in the Project Area including the existing Drew Switchyard. With approval of the Variance, the proposed structures could be up to 180 feet in height; and
- Up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another.
- A Development Agreement between the County and the Applicant to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Pursuant to the terms of the Development Agreement, thereafter, the CUPs would be valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

The Project will use PV technology to convert sunlight directly into direct current (DC) electricity. The process starts with photovoltaic cells that make up photovoltaic modules (environmentally sealed collections of photovoltaic cells). PV modules are generally non-reflective. Groups of photovoltaic modules are wired together to form a PV array. The DC produced by the array is collected at inverters (power conversion devices) where the DC is converted to AC. The voltage of the electricity is increased by a transformer at each power conversion station to a medium voltage level (typically 34.5 kilovolts (kV)). Medium voltage electric lines (underground and/or overhead) are used to collect the electricity from each medium voltage transformer and transmit it to the facility substation(s), where the voltage is further increased by a high voltage transformer to match the electric grid for export to the point of interconnection at the Drew Road Switchyard. Disconnect switches, fuses, circuit breakers, and other miscellaneous equipment will be installed throughout the system for electrical protection and operations and maintenance purposes.

This EIR is being prepared to analyze the potential environmental impacts of the Project and fulfill the requirements of the California Environmental Quality Act (CEQA).

The following is a list of key public benefits that are fundamental to the Project's objectives:

- To create significant lease revenue for Imperial Irrigation District ("IID") as the property owner, a public agency, which will benefit the citizens of Imperial County.
- To support the Imperial County General Plan renewable energy policies and objectives.
- To locate the Project at a location along the existing transmission system which has available capacity to deliver electricity to major load centers in California.
- To meet the terms and requirements of any Power Purchase Agreement (PPA) and Large Generator Interconnection Agreement ("LGIA") that the Applicant has or may enter into and that require it to be interconnected directly to the CAISO grid at the existing Drew Switchyard.
- To deploy a technology that is safe, readily available, efficient, and environmentally responsible.
- To generate power, and store energy in an efficient manner and at a cost that is competitive in the renewable market on sites controlled by the applicant.
- To provide an additional source of renewable energy to assist the State of California in achieving and exceeding the RPS.
- To maximize local construction jobs for a variety of trades thereby helping maximize the reduction of unemployment in the construction sector.

- To locate the Project in an area that ranks among the highest in solar resource potential in the nation, as measured by the CEC.
- To minimize potential impacts to aesthetics, health and safety and other potential environmental impacts:
  - o Locating the Project on disturbed land.
  - o Grouping or collocating the Project's proposed electrical interconnection facilities with existing or proposed electrical interconnection facilities (consistent with County conditions on similar solar generation projects), to the extent that such grouping/collocation can be accommodated.
  - o Utilizing existing infrastructure (switchyards, transmission lines, roads, and water sources) where feasible to locate the project proximate to existing electric interconnection and transmission systems in Imperial County with capacity to deliver electricity to major load centers in California.
- To diversify Imperial County's economic base.
- To provide tax revenue through sales, use and property taxes generated by development within Imperial County.

2.1.2 SITE LOCATION

The proposed Project site is located on six parcels (APNs 052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) approximately 6.5 miles southwest of the City of El Centro, California and 7.5 miles directly west of Calexico, California. The geographic center of the Project roughly corresponds with 32° 41' 13" North and 115° 40' 8" West, at an elevation of 19 feet below sea level. The Project site is generally located south of Kubler Road, east of the Westside Main Canal, north of SR 98, and west of Pulliam Road.

Figure 2.0-1 depicts the regional location of the Project. **Figure 2.0-2** shows the Project site and surrounding area. **Figure 2.0-3** is a conceptual phasing configuration of the Project. **Figure 2.0-4** is a site plan showing the layout of the Project and its various components.

2.1.3 OWNERSHIP

The property is owned by the IID. Drew Solar, LLC will lease the property for the construction, operation and decommissioning of the facility.

2.1.4 PROJECT CHARACTERISTICS

A. EXISTING ON-SITE USES AND SURROUNDING USES

Figure 2.0-3 shows the boundary of the Project site and the six parcels which total approximately 855 gross and 762.8 net farmable acres of lands that have been used for agriculture. **Table 2.0-1** provides the Assessor's Parcel Numbers (APNs), approximate acreage, zoning and current use of each parcel that comprise the Project site.

The Project site is located in the southwestern portion of Imperial County. There are several other approved/built solar projects in the immediate vicinity surrounding the Project site. The other projects include Centinela Solar, the Mount Signal and Calexico Solar projects, Campo Verde Solar, Wistaria Ranch Solar and Imperial Solar Energy Center South. The Project is surrounded on two sides by the existing Centinela Solar project and is adjacent to the existing Drew Switchyard, which the majority of the projects in the area interconnect to. Besides the existing solar farms in the area, the rest of the Project vicinity is agricultural with very few residences and agricultural buildings.

B. GENERAL PLAN AND ZONING DESIGNATIONS

The Imperial County General Plan Land Use Element designates the Project site as "Agriculture" (refer to Figure 4.2-1 in Section 4.2, Land Use). As shown in **Table 2.0-1**, lands on which the Drew Solar Project is

proposed are currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural) (refer to Figure 4.2-2 in Section 4.2, Land Use). Solar energy electrical generators, electrical power generating plants, substation(s), and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones (Land Use Ordinance, Title 9, Division 5, Sections 90508.02 and 90509.02).

TABLE 2.0-1
SOLAR FIELD SITE PARCELS BY CUP

APN#	CUP#	Phase	Net Acres	Gross Acres	Zoning	Current Use
052-170-039-000	17-0035	5	69.8	80.93	A-2 & A-3	Farmed for flat crops
052-170-067-000	18-0001	5	67.2	72.04	A-2	Farmed for flat crops
052-170-031-000	17-0034	4	157.1	168.61	A-2 & A-2-R	Farmed for flat crops
052-170-032-000	17-0033	3	152.2	178.07	A-2-R	Farmed for flat crops
052-170-056-000	17-0031	1	157.9	168.31	A-2	Farmed for flat crops
052-170-037-000	17-0032	2	158.6	176.24	A-2 & A-2-R	Farmed for flat crops

Sources: Drew Solar 2018a.
Notes: A-2 = Agricultural; General A-2-R = General Agricultural Rural Zone; A-3 = Agricultural, Heavy

The Project is processing a Parcel Map to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site (APNs: 052-170-039-000 and 052-170-067-000), including APN 052-170-030-000 to the north of the Project site as part of the Parcel Map. In doing so the net farmable acreage of the Project site will remain the same (762.8 net acres), and the gross acreage will increase from 844.2 gross acres to approximately 855 gross acres once the Parcel Map is recorded.

The Development Agreement would enable the CUPs to be valid for a total of 40 years with commencement of construction starting any time within 10 years of CUP approval. At the end of the useful life of the Project, the solar facility would be decommissioned and reclaimed to its original condition.

C. PROJECT COMPONENTS

Each of the components of the proposed Project is described in detail below and illustrated in **Figure 2.0-4**. The components would be installed as part of construction, in use during operation, and removed and decommissioned as part of reclamation.

The net electrical output of the proposed Project is anticipated to be approximately 100 megawatts alternating current (MWAC). The actual net electrical output of the Project will depend upon the technology selected and final design and layout. The design and construction of the buildings, solar arrays (panels, etc.), energy storage facilities, and auxiliary facilities will be consistent with County building standards.

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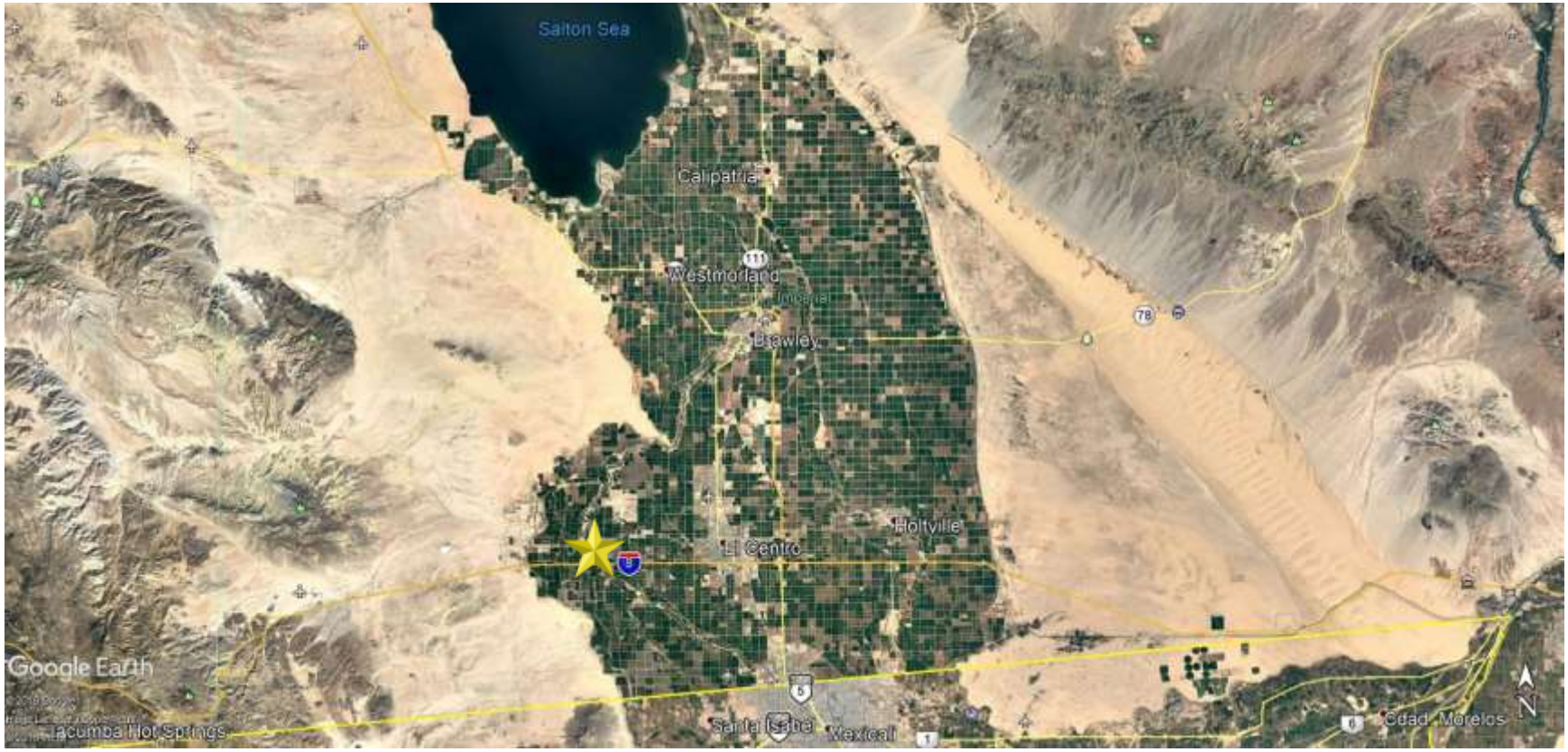
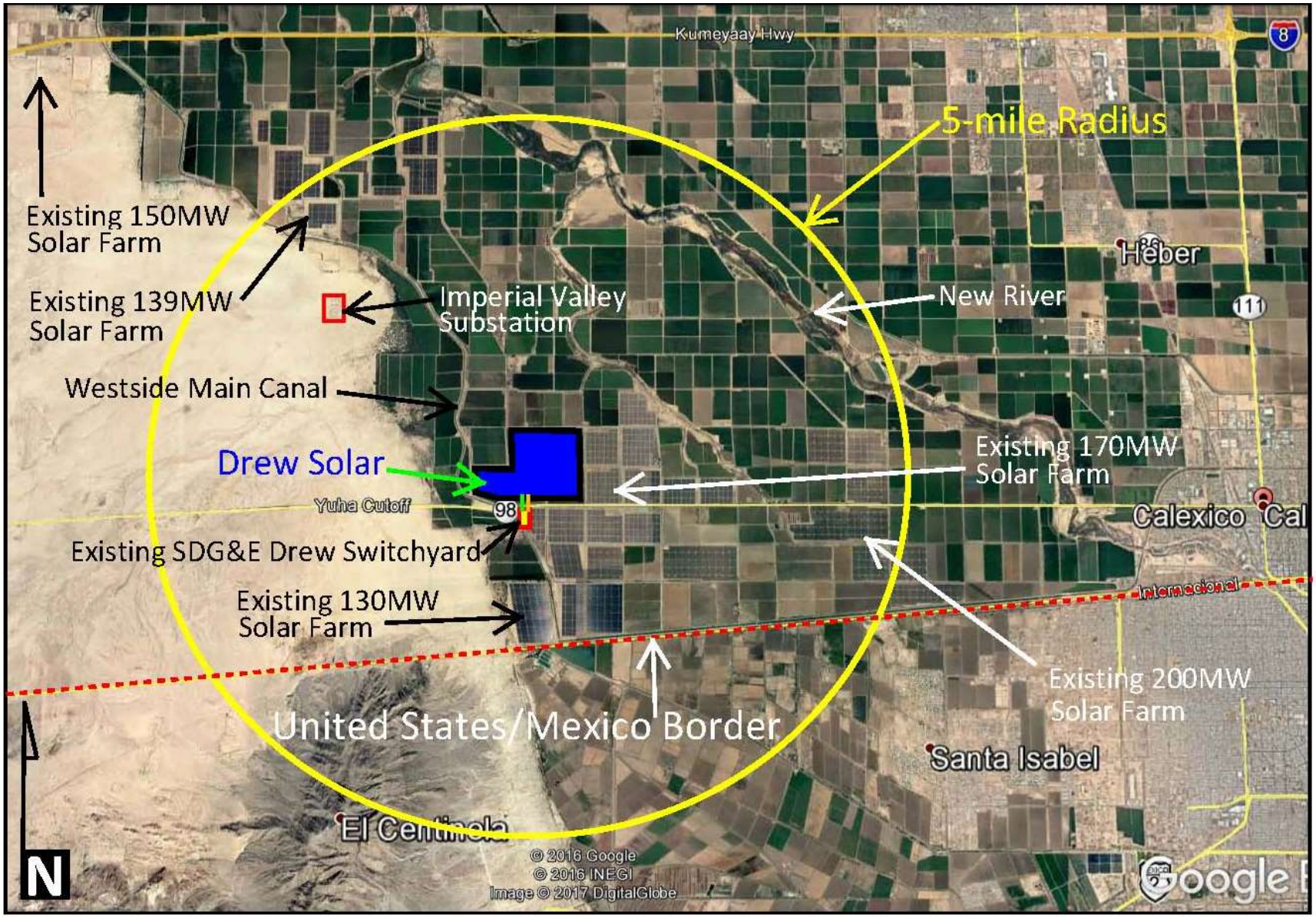


Source: Google Earth 2018.

FIGURE 2.0-1
REGIONAL LOCATION MAP



Source: Drew Solar 2018a.

FIGURE 2.0-2
PROJECT VICINITY MAP

Source: Drew Solar 2018a.

FIGURE 2.0-3
PROJECT PHASING MAP

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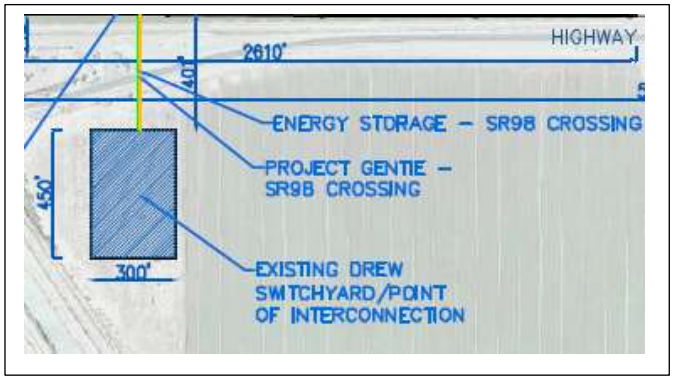
Source: Drew Solar 2018a.

FIGURE 2.0-4
PROJECT SITE PLAN

Solar Energy Generation Component. This component includes the construction, operation, and decommissioning of the five proposed solar energy generation parcels generation phases including the solar generating and collecting equipment, Operation and Maintenance building(s) and associated parking, on-site roads, driveways on County roads and SR 98, improvements to County roads, project electrical facilities crossing IID canal/drain rights-of-way, connections to IID canals for raw water service, raw water/fire water storage, water filtration buildings and equipment, treated water storage, storm water retention basins and connection to IID drains, equipment control buildings, septic systems, perimeter fencing, connections to IID electrical distribution system, connections to dry utility distribution facilities, substation(s), and supporting transmission and Gen-Tie facilities. This component could be built out under either the Full Build-out Scenario or Phased Build-out Scenario.

Energy Storage Component. This component includes the proposed construction, operation, and decommissioning/reclamation of energy storage as a component of solar on lands zoned A-2 and A-3. Per County requirements, energy storage could be constructed at a ratio of 2 MW of storage for every one MW of solar generation capacity.

Drew Switchyard and Gen-Tie Lines Component. This component includes the construction, operation and decommissioning of required improvements at the existing Drew Switchyard facility and supporting transmission and the two Gen-Tie lines extending from the south end of the Project site across SR 98 into the Drew Switchyard located on APN 052-190-039-000-000 in order to accommodate the Project's proposed utilization of the facility. The two Gen-Tie lines are proposed to extend approximately 400 feet south from the Project site across Drew Road and SR 98. One gen-tie is for solar generation and one is for energy storage. Both gen-tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. This component could be built out under either the Full Build-out Scenario or the Phased Build-out Scenario. Therefore, phased-buildout is not analyzed separately for this component.



Solar Technology

The Project may include only one PV technology or a combination of various PV technologies, including but not limited to crystalline silicon-based systems, thin-film systems, and perovskites. Concentrated photovoltaic (CPV) technology is not proposed.

When sunlight strikes a PV module, the energy absorbed is transferred to electrons in the atoms of the semiconductor causing them to escape from their normal positions and become part of the current in an electrical circuit. The PV modules convert the sunlight directly into low-voltage Direct current (DC) electricity that is subsequently transformed to alternative current (AC) electricity through an inverter. The system only operates when the sun is shining during daylight hours. The system operates at peak output when the sunlight is most intense, though it also produces power in low light conditions.

Fixed-Tilt and Tracker Structures

Depending on the selected manufacturer for the PV modules, the modules will be mounted on fixed-tilt or single-axis tracking structures. The modules will be grouped in nominal 1 to 4 MWAC arrays. Fixed tilt arrays will be oriented in east-west rows and will face in a generally southern orientation with a tilt angle between 10 and 35 degrees to maximize the amount of incidental solar radiation absorbed over the year. Single-axis trackers typically

rotate ±60 degrees (degree zero is horizontal) along a nominally north-south axis to track the sun's movement throughout the day. Structural support elements will be constructed of corrosion-resistant steel, aluminum, or equivalent members that are attached to circular piers or I-beam posts that will be driven into the prepared base grade of the Project site. The solar array field is arranged in groups called "blocks."

Figure 2.0-5 depicts a typical array layout. **Figure 2.0-6** is a graphic showing tracker details. The entire array block is connected to an inverter and transformer station to convert the current from DC to AC and step up the voltage to a higher voltage which is more efficient for transmitting power to the project substation(s).

Inverters and Pad-mounted Transformers

At the center of each array is a power conversion station where inverters take the DC power output from the PV modules and convert it to AC power. **Figure 2.0-7** provides an elevation of a typical inverter station. The adjacent pad-mounted transformer steps the voltage up to a medium voltage level. The medium voltage outputs from each of the pad-mounted transformers are collected together in combining switchgear located at discrete locations on the Project site. The medium voltage output from the combining switchgear will be connected to the Project substation(s) where it will then be stepped up to 230-kV for export to the grid. The Project's two Gen-Tie lines will interconnect to the existing Drew Switchyard. Both gen-tie lines may be underground or one may be underground and one above-ground.

Substations and Switchyard

An on-site substation will step-up the voltage from the collection level voltage to 230-kV for each phase of the Project. Breakers, buswork, protective relaying, Supervisory Control and Data Acquisition (SCADA), and associated substation equipment will be constructed on the Project site. The communication system may include above or below ground fiber optic cable or microwave tower. The Project will be interconnected to the regional transmission system via the Drew Switchyard from the on-site substation(s)/switchyard(s) via the two Gen-Tie lines described in this project description. **Figure 2.0-8** depicts a typical substation configuration.

Transmission Interconnection Facilities

The Project plans to connect to San Diego Gas & Electric's (SDG&E) Imperial Valley Substation by way of the existing Drew Switchyard. In order to minimize impacts to the environment, the Project will utilize the existing Drew Switchyard as its point of interconnection. As illustrated in **Figures 2.0 -2, 2.0-3, 2.0-4** and **2.0-9**, the Project's two Gen-Tie lines are proposed to extend approximately 400 feet south from the south end of the Project site across Drew Road and SR 98 into the existing Drew Switchyard located on APN 052-190-039-000. Both gen-tie lines may be underground or one may be underground and one above-ground. If undergrounded, the Project may have twin borings under SR 98 to connect to the Drew Switchyard. Borings would be advanced using directional drilling at varying depths in a curved shape from entry point to exit point (Dessert pers. comm., 2019).

For the Solar Generation Gen-Tie line, a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings.

For the Energy Storage Gen-Tie line, several on-site poles may be constructed to extend the Gen-Tie to the Southwest ¼ Section of the Project Area. This will require vehicles and equipment to work at each tower location as well as to utilize pull sites along the two Gen-Tie lines.

The structures for the two 230-kV Gen-Tie lines are expected to be similar to those shown in **Figure 2.0-10**. If the Project is able to collocate with other facilities in the area, the Project may construct a new pole to the east of the existing pole that is on the northerly side of the existing Drew Switchyard in order to reduce Gen-Tie line crossings.

Whether or not the Project is built in phases or at one time, the use of collector lines to collect electricity from the array fields to the Project substation(s) would remain similar. Skid mounted enclosed switchgear would be used within panel fields/phases to collect and transmit the electricity from the panel array fields to the Project substation(s).

Operations and Maintenance (O&M) Building Complex

The Operations and Maintenance (O&M) Building Complexes may contain administrative offices, parts storage, a maintenance shop, plant security systems, a site control center (**Figure 2.0-11**), and plant monitoring equipment. A specific design for the building(s) has not yet been selected as the technology utilized in utility scale solar energy production continues to improve dramatically at a rapid pace. The final layout will be based on the technology selected. The building(s) may have exterior lighting on motion sensors and will have fire and security alarms. The building(s) will be located on a graded area(s) with adjacent worker parking. The parking lot will be surfaced with per Imperial County Department of Public Works (ICDPW) Engineering Design standards and have a handicapped parking space. Additionally, the access road/driveway to the parking lot would be surfaced per ICDPW Engineering Design standards.

The Project will collect wastewater from sanitary facilities such as sinks and toilets in the O&M building(s). This waste stream will be sent to an on-site sanitary waste septic system and leach field to be installed in compliance with standards established by Imperial County Environmental Health Services. Alternatively, the Project may be designed to direct these waste streams to an underground tank for storage until it is pumped out, on a periodic or as-needed basis, and transported for disposal at a licensed waste treatment facility.

During periodic major maintenance events, portable restroom facilities may be provided to accommodate additional maintenance workers. An on-site water treatment facility may be constructed. Each phase may have its own O&M Building Complex, and Phase 5 may have two O&M Building Complexes.

Energy Storage

The Project as proposed includes an energy storage component and each phase may have its own energy storage component. The field of energy storage is rapidly advancing; thus, a single technology or provider has not been selected for the energy storage portion of the Project. The storage components of the Project will utilize storage technologies that operate based upon the principles of potential including but not limited to compressed air or pumped storage, lithium (ion, oxygen, polymer, phosphate, sulphur), Nickel Metal Hydride, Nickel Cadmium, Lead Acid, antiperovskites or other batteries, including but not limited to solid state batteries that may be approved for commercial use within the United States of America, and flywheels. The storage components may be centralized and located adjacent to the substation or switchgear, or alternatively, the energy storage components may be distributed throughout the facility adjacent to individual power conversion centers. The storage components would be housed in a warehouse type building (**Figure 2.0-12**) or alternatively in smaller modular structures such as cargo shipping containers (**Figure 2.0-13**). The Project may store energy generated onsite as well as energy from the CAISO grid. Whether storage components are centralized or distributed throughout the site, the Project's overall construction and operational impacts will remain the same because duration of construction and the construction activities would be the same under each development scenario, and all activities would occur within the Project disturbance area. The Renewable Energy and Transmission Element identifies public benefits associated with renewable energy. As demonstrated in **Table 2.0-2**, the Project with energy storage incorporated contributes to and enhances each of the eight public benefits associated with renewable energy generation.

TABLE 2.0-2
ENERGY STORAGE AND THE PUBLIC BENEFITS ASSOCIATED WITH RENEWABLE ENERGY AND TRANSMISSION

Public Benefits of Renewable Energy and Transmission	How Energy Storage Achieves the Benefit
Fiscal benefit of sales tax revenues from the purchase of equipment, goods and services.	Equipment purchases related to the design, construction, and operations of energy storage facilities will generate additional sales tax revenues.
Lease benefits to IID, a public agency.	The Project will be built on land owned by the local public utility, IID.
Social and fiscal benefits from increased economic activity and local employment opportunities that do not threaten the economic viability of other industries	The construction and operational phases of the Project will generate increased economic activity by bringing new jobs to the local community.
Improvements in technology to reduce costs of electrical generation	• Energy storage enables better energy balancing and great grid reliability by solving the discrepancy between solar energy's peak demand and peak supply times, benefitting both the region and the state in achieving critically needed energy balancing. • Energy balancing, in turn, levels the cost of energy. By storing excess energy generated during daylight hours, energy storage would increase the supply of energy available during peak demand, thereby offsetting some of the higher costs of energy consumption generally associated with peak nighttime demand.
Reduction in potential greenhouse gases by displacing fossil-fuel-generated electricity with renewable energy power which does not add to the greenhouse effect	Energy storage will help the region and the State achieve greenhouse gas reduction targets by allowing the CAISO to procure electricity from renewable resources held in storage rather than from fossil-fuel sources.
Contribution towards meeting the State of California's RPS	Aid California in meeting its RPS requirements by contributing to the supply of renewable electricity for CAISO's procurement.
Minimization of impacts to local communities, agriculture and sensitive environmental resources	Energy storage leverages existing renewable energy resources and reduces the need for fossil fuel-derived sources of electricity, thus reducing potential air quality and GHG emissions. The Project is sited on previously disturbed agricultural land to minimize impacts to sensitive environmental species. The Project site will be restored to farmable conditions at the end of the life of the Project.

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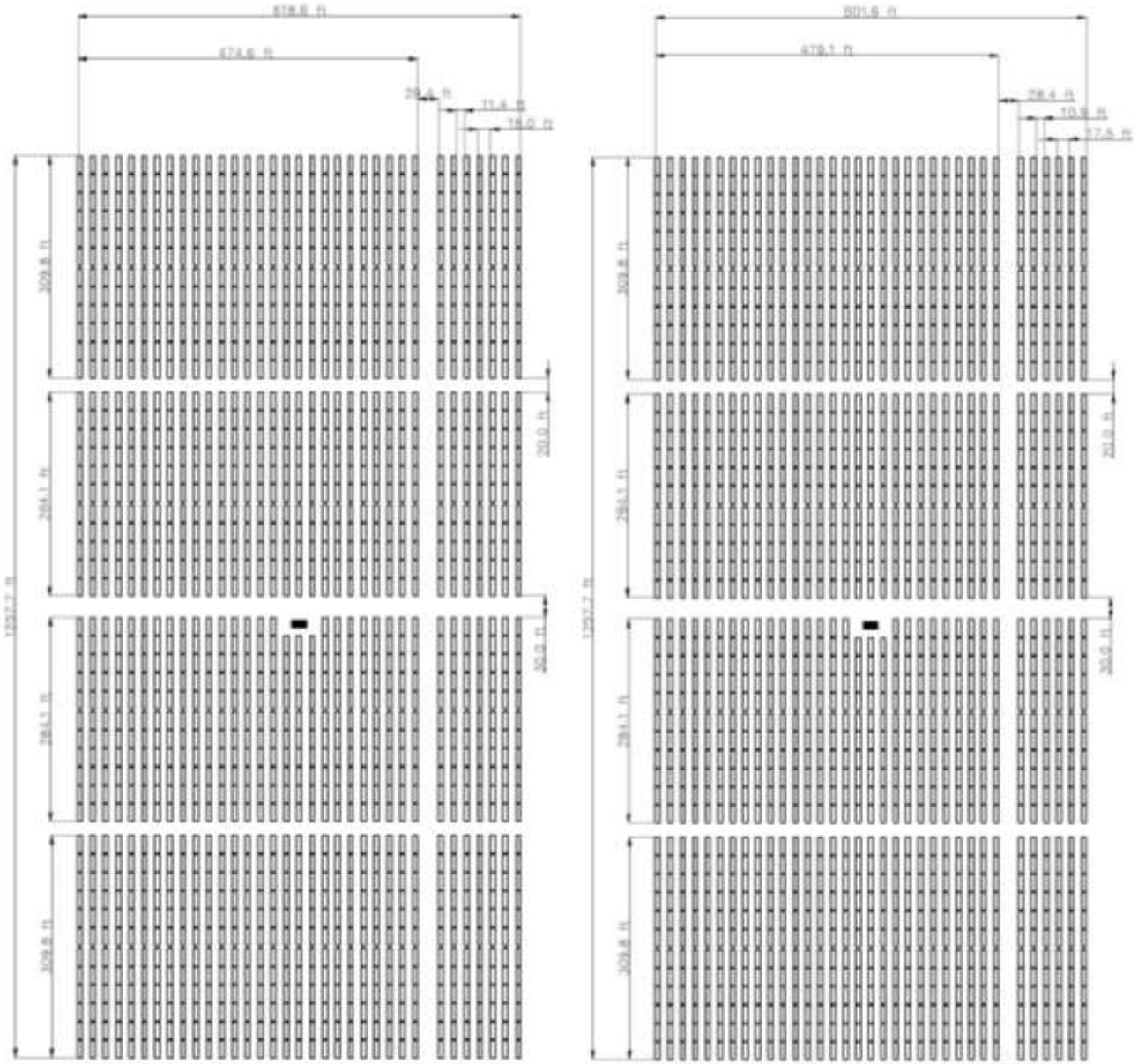
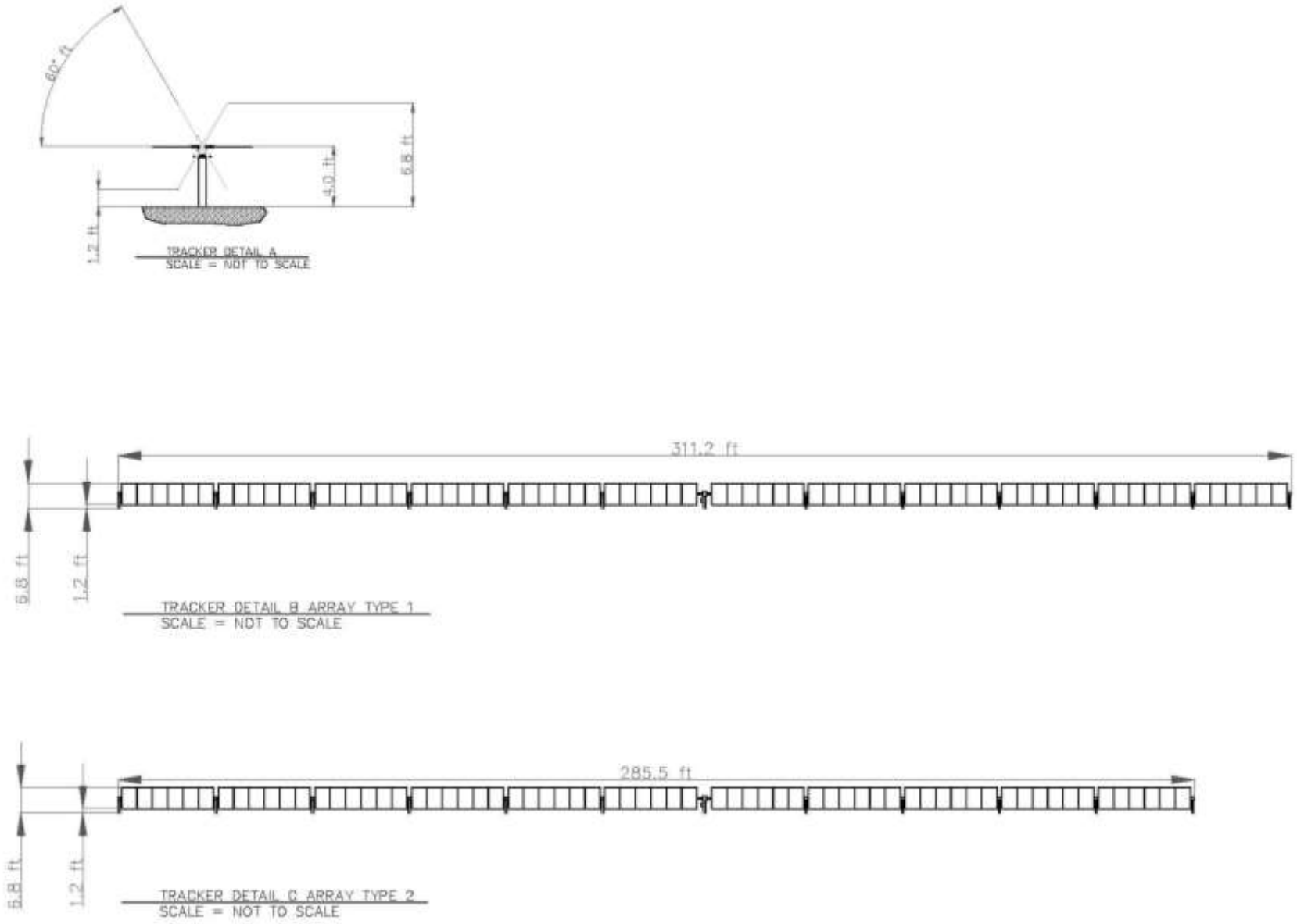


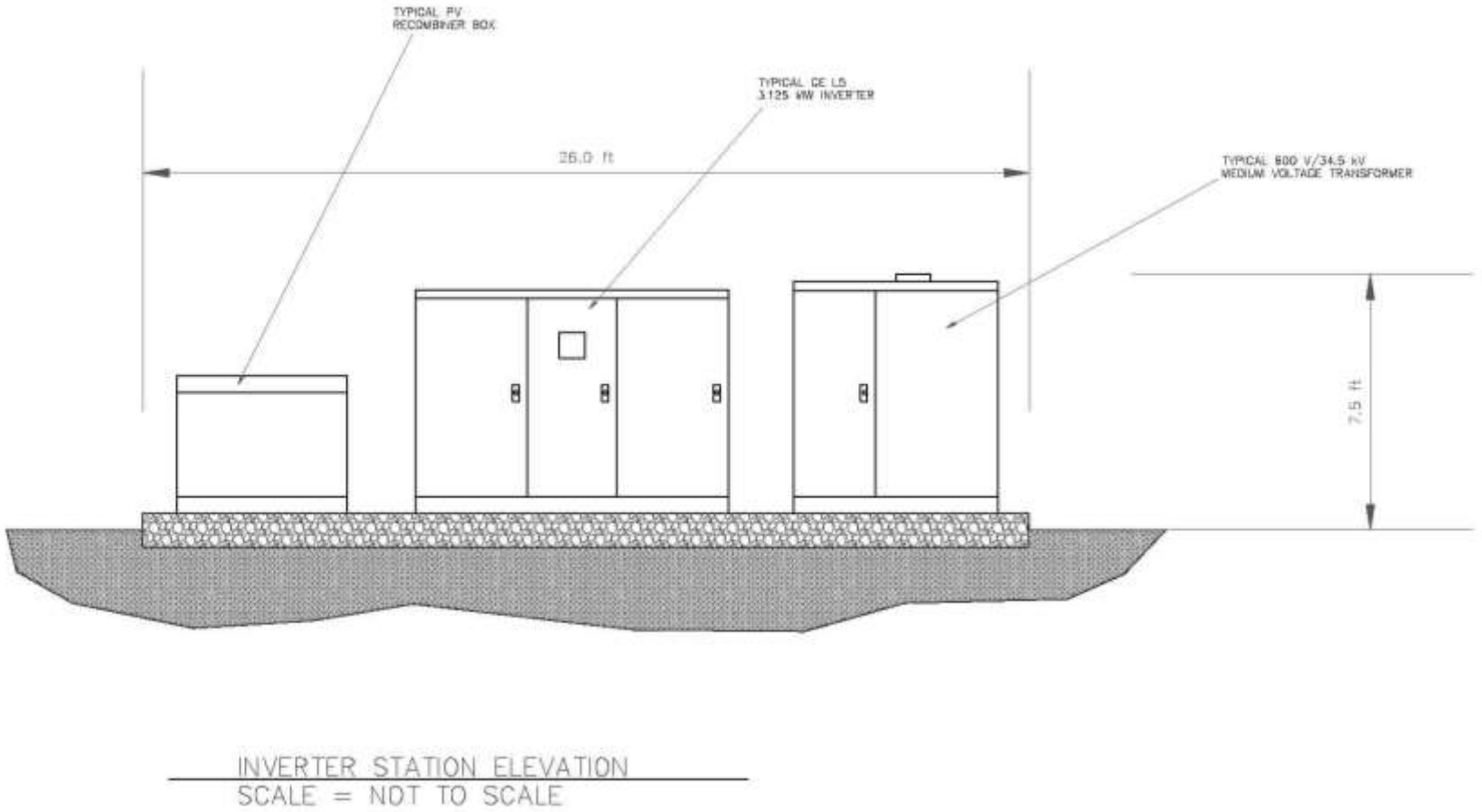
Source: Revolution Labs 2017.

FIGURE 2.0-5
TRACKER BLOCK DETAILS



Source: Revolution Labs 2017.

FIGURE 2.0-6
TRACKER DETAILS



Source: Revolution Labs 2017.

FIGURE 2.0-7
INVERTER STATION ELEVATION

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Source: Drew Solar 2018a.

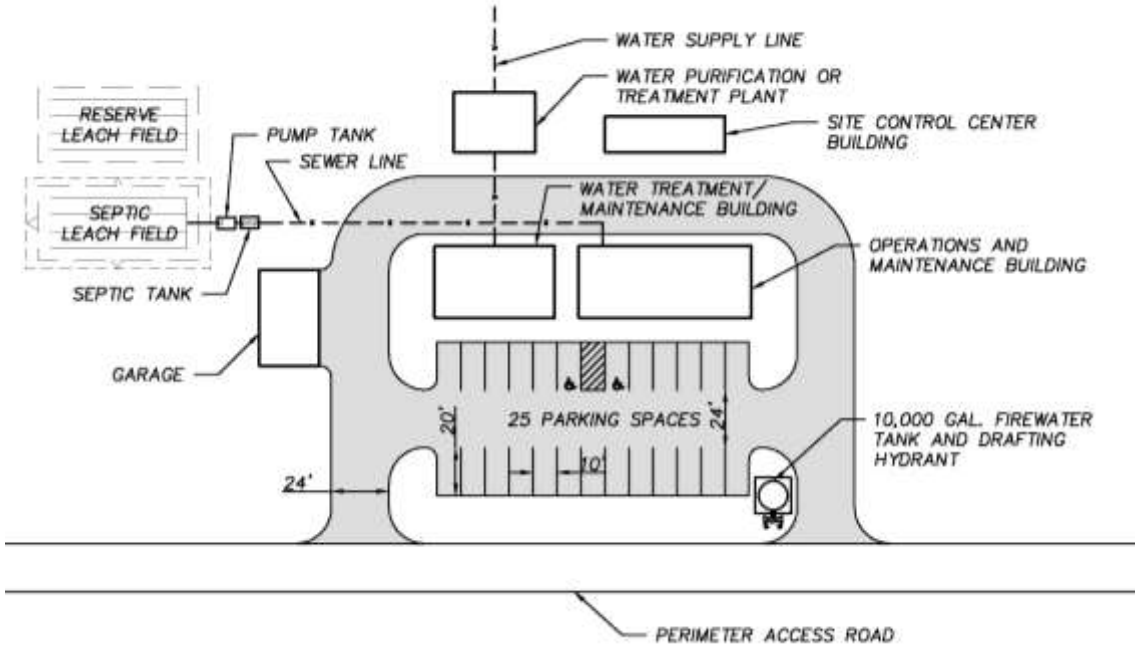
FIGURE 2.0-8
TYPICAL PROJECT SUBSTATION

Source: Drew Solar 2018a.

FIGURE 2.0-9
ABOVE-GROUND GEN-TIE LINE TO EXISTING DREW SWITCHYARD

Source: Drew Solar 2018a.

FIGURE 2.0-10
TYPICAL MONOPOLE STRUCTURE



Source: Fuscoe 2017.

FIGURE 2.0-11
OPERATIONS AND MAINTENANCE COMPLEX

Source: Drew Solar 2018a.

FIGURE 2.0-12
BATTERY ENERGY STORAGE SYSTEM BUILDING

Source: Drew Solar 2018a.

FIGURE 2.0-13
BATTERY ENERGY STORAGE SYSTEM CONTAINERS

Additional benefits of energy storage include the following:

Energy storage will likely reduce blackouts and contribute to grid reliability. Customer demand on the grid is highest typically during the summer months, when energy regulators are most concerned about the possibility of brownouts and blackouts. Energy storage will increase the region's energy storage capacity by establishing energy reserves that can be used during this high demand period. Energy storage is a cost-effective and environmentally friendly technology to address ramp, regulation, capacity, ancillary services, system reliability and power quality because smoothing the power supply and providing a spinning reserve are functions usually performed by costly burning of fossil fuels. Further, energy storage can respond rapidly to increased demand / decreased supply (e.g., when clouds block the sun), whereas a conventional steam or gas-fired generator takes much longer and can result in supply deficits during the ramp-up period or when excess energy is kept on the grid and facilities are kept on standby to avoid excessive ramping times. This can make a significant difference when trying to correct frequency issues or meet reliability standards established by the North American Electric Reliability Corporation.

The large amount of intermittent renewable energy located at the Imperial Valley Substation has the potential to create challenges for CAISO and IID due to fluctuating weather conditions. For example, clear skies will generate significant solar resources (more than 1,000 MW) to the Imperial Valley Substation, but, cloud cover could significantly and suddenly reduce that generation to 100 MW. These variations have the potential to disrupt grid reliability. The Project's energy storage component would be capable of storing enough energy to discharge and maintain the 1,000MW output even during extended cloud cover.

The Applicant is proposing to install the energy storage facilities on with the Project site given its close proximity to the existing Drew Switchyard. This location is ideal to help accommodate the high levels of intermittent solar energy flowing through the existing Drew Switchyard and thus minimizing the risks of grid instability and outages.

Energy storage promotes stable electricity prices. Energy storage will enhance the Project's solar generation facility by providing for storage of energy generated during peak supply for use during peak demand periods, thus reducing the need to call up more expensive gas peaker plants to meet peak demand. Energy storage coupled with solar will allow the Project to supply stable electricity prices over the long term by eliminating potential fuel price volatility associated with use of fossil fuels, thus promoting stable electricity prices.

Energy Storage maximizes regional investments in transmission infrastructure. Energy storage will help manage transmission congestion, which in turn will help increase overall load carrying capacity. Further, by reducing the demand on transmission and distribution infrastructure during peak generation hours, energy storage will help extend the life of existing transmission infrastructure and defer repair and replacement costs that are often passed on to the public through increased rates.

Site Access / Traffic and Circulation

There are County maintained roads providing access throughout the Project site. Access to the Project site will be from Kubler Road, Drew Road, Pulliam Road, and SR 98. Access to components of the solar generation and energy storage facility will be controlled through security gates at several entrances. Multiple gate restricted access points will be used during construction, operation and decommissioning. Final driveway locations will be based on the access points in the final and approved grading and improvement plans for the Project.

Roadway and IID Crossings

The Project will include electric and vehicular crossings of State facilities, IID facilities and County facilities. Due to the nature of the Project and the rapidly changing technology, the exact locations of the crossings

are not known at this time. For the purpose of the environmental analysis, the EIR and underlying documentation assume wherever an Imperial Irrigation District (IID) facility (drain, irrigation canal, electric line, etc.) or County or State facility (road, etc.) intersect the Project, an electric or vehicular access crossing will occur. The Project crossings will not interfere with the purpose or continued use of these Agencies' facilities. For instance, where a drain flows, the Project crossing or access point will still allow the drain to flow. As required by IID, the Project may be required to make minor improvements to on-site drains. IID requires solar projects to improve existing drain outflow pipes. This typically involves installation of new drain outflow pipes to reduce erosion within the drains (Dessert pers. comm., 2018).

Electric Service

Operational electric service may be obtained from IID for the O&M building(s) and auxiliary loads. Temporary electric service will be obtained for primary construction logistical areas. Generator power may be utilized for temporary portable construction trailer(s), construction and/or for decommissioning.

Fire Control

The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, routine weed abatement and landscape maintenance will occur. As such, the Project represents a negligible increase in fire potential.

However, a Fire Management Plan will be prepared in accordance with Fire Department requirements for access and will not impact the ability to provide emergency access to the Project site. Access to nearby properties will not be hindered or restricted by the Project.

D. PROJECT CONSTRUCTION

Construction Workers

The Project would generate construction jobs. The number of workers on the Project site is expected to vary over the construction period. However, the number of construction workers onsite is expected to average up to 250 workers daily.

Typical construction work hours are expected to be from 7:00 am to 7:00 pm Monday through Friday, and 9:00 am to 5:00 pm on Saturdays. The schedule may change based on a need to comply with various biological mitigation measures, overall construction timing, or worker safety such as avoidance of excessive midday heat. Any deviation from construction work hours allowed in the General Plan Noise Element would require Planning Director approval.

Construction Duration

Under the Full-Build-out Scenario, which assumes the simultaneous construction of all proposed generation and storage facilities, construction is expected to continue for approximately 18 months. The Phased CUP Scenario is discussed in the following section. The construction equipment, materials, and labor involved in building the Project remain similar whether the project is constructed in phases over time or built out over an 18-month period. The 18-month buildout of the entire Project at once results in greater intensity of labor and equipment during the construction period.

Phasing

The Phased CUP Scenario refers to the development scenario where the Project is constructed in phases by individual CUP (i.e. CUP#17-0031) or a group of CUPs (i.e. CUP#17-0031, CUP#17-0035 and CUP#18-0001) as appropriate to accommodate market demand. This scenario also refers to the two Gen-Tie lines, electrical collector lines and other on-site and off-site ancillary facilities proposed for development as part

of the Project. The generation facilities may be operated independently and the generation from each facility may be marketed to different purchasers. The phases shown on the phasing plan (**Figure 2.0-3**) are conceptual. The phases may be aggregated during construction and operations/maintenance so that multiple phases could be built at one time. All phases are anticipated to utilize the two proposed Gen-Tie lines that extend from the south end of the Project site across Drew Road and SR 98 into the existing Drew Switchyard located on APN 052-190-039-000. Both gen-tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. The phases are anticipated to use the main Project switchyard; however, each phase may independently construct its own up to 230-kv step-up transformer and switchyard. The construction of individual step-up transformers and substations would not change the Project's overall environmental impacts, as compared to use of a main Project substation because each scenario would require the use of similar construction equipment and activities and occur within the Project disturbance area. **Table 2.0-3** provides a list of the conceptual phases along with the APNs and approximate acreage.

TABLE 2.0-3
PROJECT PHASING - NET AND GROSS ACRES

APN	Net Acreage	Gross Acreage
Phase 1		
052-170-056-000	157.9 Acres	168.31
Phase 2		
052-170-037-000	158.6 Acres	176.24
Phase 3		
052-170-031-000	152.2 Acres	168.61
Phase 4		
052-170-032-000	157.1 Acres	178.07
Phase 5		
052-170-039-000	69.8 Acres	80.93
052-170-067-000	67.2 Acres	72.04

Source: Drew Solar 2018a.

Note: The Project is processing a Parcel Map to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site (APNs: 052-170-039-000 & 052-170-067-000), including APN 052-170-030-000 to the north of the Project site as part of the Parcel Map. In doing so the net farmable acreage of the Project site will remain the same (762.8 net acres), and the gross acreage will increase from 844.2 gross acres to approximately 855 gross acres once the Parcel Map is recorded.

Temporary Construction Facilities

During construction, temporary facilities will be developed on-site to facilitate the construction process. These facilities may include construction trailers, temporary septic systems or holding tanks, connections to adjacent IID raw water canals, parking areas, material receiving / storage areas, water storage ponds, construction power service, recycling / waste handling areas, and others. These facilities will be located at the construction areas designated on the final site plan(s).

Laydown Areas

At full build-out, most of the Project site will be disturbed by construction of the Project. Temporary construction lay down, construction trailers, and parking areas will be provided within the Project site. Due to the size of the Project site, the solar field lay down areas may be relocated periodically within the solar field acreage as the project is built out in phases.

Disturbance

TABLE 2.0-4
CONSERVATIVELY CALCULATED PROJECT DISTURBED ACRES

Property/Project Component	Disturbed Acres (gross)
Project Site	855
Project Gen-Ties	0.8
Access Roads	N/A
Drew Switchyard	0.5
Total Project Disturbance	856.3

Source: Drew Solar 2018a.

Grading and Drainage

Site preparation will be planned and designed to minimize the amount of earth movement required for the Project to the extent feasible. The hydrology design will be given first priority in order to protect the Project's facilities and adjacent facilities including any IID/County facilities from large storm events. It is the intent of the Project to support the panels on driven piles. Additional compaction of the soil in order to support the building and traffic loads as well as the PV module supports may be required and is dependent on final project engineering design.

The existing on-site drainage patterns will be maintained to the greatest extent feasible. It may be necessary to remove, relocate and/or fill in portions of the existing drainage ditches or delivery canals to accommodate the final panel layout for the Project. The final engineering design for these facilities will be reviewed by IID and the County to be sure that the purpose for the facilities (if still needed) will still be met.

Dust Control

Dust generated during construction would be controlled by watering and, as necessary, the use of other dust suppression methods and materials accepted by the Imperial County Air Pollution Control District (ICAPCD) or California Air Resources Board (CARB). During grading, actively disturbed on-site areas and unpaved roads would be watered at least three times a day as necessary to reduce fugitive dust emissions. In addition, speeds would be limited to 15-mile per hour (mph) speed during construction.

Water Use

During construction of the Project, water will be required for a variety of construction activities, including dust suppression, earth compaction, the creation of engineered fill, and concrete preparation. Construction-phase water demand will be greatest during site grading which will consist of disc and roll compaction over the site. An estimated total of 1,200 acre-feet of water will be used for the Project dust control and other construction activities during Project construction. An estimated 1,200 acre-feet of water will be used for decommissioning.

Construction Traffic

Daily trip generation during the construction of the Project would be from delivery of equipment and supplies and the commuting of the construction workforce. Deliveries of equipment and supplies to the Project site would also vary over the construction period but have the potential to range from 5 to 40 daily trips, averaging approximately 10 daily trips. Parking for Project-related vehicles will be provided onsite during construction. **Table 2.0-5** summarizes project construction trip generation.

TABLE 2.0-5
DREW SOLAR PROJECT- CONSTRUCTION TRIP GENERATION

Proposed Construction Related Traffic	ADT	6-7 AM		7-8 AM		4-5 PM		5-6 PM	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT
Construction Workers on 4-10 Shift (75% of 250)[1]	282	141	0	0	0	0	0	0	141
Construction Workers on 5-8 Shift (25% of 250)[2]	94	0	0	47	0	0	47	0	0
Equipment and Construction Trucks (with PCE)[3]	60	3	3	3	3	3	3	3	3
Total Traffic During Peak Construction Period	436	144	3	50	3	3	50	3	144
Daily and Higher Peak Hour Used for Analysis	436	144	3					3	144

Source: LOS 2018. Notes: 1) Applicant estimates the 4 days at 10 hrs/day (4-10s) shift to include about 188 workers (75% of the total 250 peak work force) with about 25% carpooling (47) and riding with the 75% (141), thus the inbound is 141 trips and the ADT is 282. 2) Applicant estimates the 5 days at 8 hrs/day (5-8) shift to include about 62 workers (25% of the total 250 peak work force) with about 25% carpooling (15) and riding with the 75% (47), thus the inbound is 47 and the ADT is 94. 3) Approx. 10 daily trucks with a Passenger Car Equivalent (PCE) factor of 3 applied to each truck equals 60 ADT (10 trucks x 2 x 3 PCE = 60 ADT) that are anticipated to have a frequency of about 1 in and 1 out per hour for a peak period volume of 6 (with PCE).

The 4-10 shift workers typically arrive between 6 a.m. and 7 a.m. for meetings before construction activities start at 7 a.m., and depart sometime between 5pm and 6pm while the 8-5 shift workers typically arrive between 7am and 8am and depart between 4pm and 5pm.

Based on the expected trips generated, traffic on the local roads would increase during construction but impacts to current traffic patterns are anticipated to be minimal. With a phased Project, the total number of trips generated during construction would be about the same, but the number of daily trips would be reduced and the number of days to complete construction would be extended resulting in a decrease in intensity.

Storm Water

The Proposed Project would retain to the greatest extent feasible the existing drainage characteristics of the Project site. Existing low-lying areas which receive runoff will continue to do so in the proposed conditions. Shallow on-site retention basins will be utilized. Where on-site soils have the potential to infiltrate runoff, runoff will be infiltrated. Where infiltration is not feasible, runoff may be detained and slowly released to the IID Drain system such that the peak flowrate of runoff from the 100-year storm event in the proposed condition is equal to or less than it is in the existing condition.

Staging Areas

If the Project is constructed in phases, it is anticipated to be constructed in a counterclockwise manner starting with the parcel that is across the street from the existing Drew Switchyard. It is anticipated that any staging would take place within the parcel that is under construction.

Waste

Small amounts of trash would be generated during construction from packaging materials delivered to the Project site. Construction related waste would be transported to a local landfill authorized to accept this waste for disposal or an appropriate recycling center authorized to accept recyclable materials.

Hazardous Materials

Very little hazardous waste (waste oil and lubricants, spill clean-ups, etc.) is expected to be generated from the Project during construction and decommissioning. Fuel that may be used on site during construction and decommissioning would be stored in secondary containment. The Project will also be required to comply with State laws and County Ordinance restrictions which regulate and control hazardous materials. All hazardous materials onsite will be disposed of in accordance with the law, which may include recycling.

Possible energy storage systems include, but are not limited to: compressed air or pumped storage, lithium (ion, oxygen, polymer, phosphate, sulphur), Nickel Metal Hydride, Nickel Cadmium, Lead Acid, antiperovskites or other batteries. These technologies include materials that run the risk of overheating and catching fire if equipment is not operated properly. Potential hazardous material/fire issues are discussed further in Section 4.13.1, Fire Protection.

Sanitation

Portable toilets would be located on site during construction and sanitary waste would be removed by a local contractor.

Off-Site Construction Activities

The portion of the two Gen-Tie lines crossing the Caltrans right-of-way under or over SR 98 into the existing Drew Switchyard parcel would be approximately 400 feet in length. Both gen-tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. A new bay will be constructed inside the existing Drew Switchyard as part of the Project Gen-Ties. Collector lines will cross Drew Road and IID drains and canals. Drive approaches will be constructed on Drew, Kubler, and Pulliam Roads as well as SR 98.

E. Operations and Maintenance

Once construction is completed, the Drew Solar Project will begin its operational phase.

Employees

Approximately two to six full-time workers will be employed to operate the solar generating facility. These personnel will perform maintenance and security functions.

Traffic

No change to current traffic patterns would result during Project operation. The Project site is expected to generate approximately 4 to 10 trips per day from maintenance and security personnel.

Security

To ensure the safety of the public and the facility, the property will be fenced, security lighting may be installed, and signs will be posted. Access to the Project site will be controlled, and gates will be installed at the roads entering the property. The fence will be monitored periodically to detect any intrusion into the property. The Project proposes an up to 7-foot chain link fence with 3-strand barb wire placed at the top, extending to a total of up to 8 feet. Landscaping and entry monumentation will be maintained at the entrance to the O&M building(s).

Lighting System

The lighting system will provide operation and maintenance personnel with illumination in both normal and emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be shielded and oriented to focus illumination on the desired areas, minimizing light spillover.

Water Use

The Project plans to secure water rights from the IID under the IID's Interim Water Supply Policy for Non- Agricultural Projects. In the event this isn't feasible, the Project will truck water to the Project site for operational purposes or procure water from IID's applicable water policy/program at that time.

Typical system configuration with two 10,000-gallon tanks and plant in building

The water used during operations will be used for domestic use and fire protection. Water is typically procured from IID via a long-term Water Supply Agreement with a service pipe connection to an adjacent IID raw water canal. The Project may also use water to wash the solar modules should it be determined to be beneficial to the Project. The Project anticipates a requirement of approximately 60 acre-feet per year during plant operation. Water for fire protection will be stored in a 10,000-gallon tank onsite (similar to that shown in the image above). Project operational water use will be significantly less than the estimated total of 1,200 acre-feet of water to be used during construction, and also significantly less than the estimated total of 1,200 acre-feet of water to be used for decommissioning.

Noise

The primary noise sources during operation of the Project are anticipated to be from inverter tracking motors and blowers (that are used to remove condensation from solar panels), which would be distributed throughout the facility.

Additional noise may be generated by equipment within the substation; typically, this includes switches, protection and control equipment, transformers, and the incoming transmission lines. The noise generated by transmission lines and switches has previously been analyzed to be 25 dBA at 50 feet. Transformers within the substation would generate noise levels similar to those at the inverters. Substation switches do not generate an audible noise, and circuit breakers (70 dBA at 65 feet) would not be a common noise source, as they would only operate for short periods of time during an emergency event in order to protect the switches and transformers within the substation.

Communications Systems

The Project will utilize telephone and internet services that will be provided via overhead or underground lines, microwave tower or via cellular service obtained from a local provider.

Waste

Some waste material would be generated during normal operations and would be hauled off-site. Sanitary waste generated during operations would go to project septic systems and/or periodically be pumped and hauled off site and disposed of by a licensed contractor.

The Applicant will provide appropriate training and supervision of on-site personnel throughout construction of all CUPs and regularly during operation of the project regarding management of materials and wastes and responding to hazardous releases or spills or other Project site emergencies. This training will include the procedures to follow during any Project site emergency, and appropriate reporting of spills, releases, or other emergencies to Imperial County, and local emergency service providers. Either directly or through its contractors, the Applicant will hire several personnel to oversee all aspects of a hazardous materials management plan and follow Best Management Practices (BMPs).

Panel Washing & Project Water Use

Solar panels may be washed on a periodic basis if it determined to be beneficial to the Project. Solar panels would be washed up to four times per year. Approximately 14 acre-feet of water per year of the 60 acre-feet of water per year required for Project operations and maintenance will be used for panel washing. Fire protection is estimated to be 1 acre-foot of water per year, sanitary water is estimated to be 5 acre-feet of water per year, dust suppression is estimated to be 35 acre-feet of water per year, and potable water is estimated to be 5 acre-feet of water per year.

Weed and Vegetation Management

Invasive / weedy species would be controlled and any non-invasive vegetation that re-establishes within the Project site would be controlled within the solar field. Vegetation growing within the boundaries of the Project site would be periodically removed manually and/or treated with herbicides. The Applicant would be required to prepare a Pest Management Plan for submission to the Imperial County Agricultural Commission.

Miscellaneous

Other maintenance activities that would be conducted include periodic testing of equipment, inspection and repair of project components, and maintenance of on-site roads and drainage systems (i.e. retention basin[s]).

Electricity Consumption

The Proposed Project may consume an estimated 4.4 MW-hours (Station Service, Trackers, and back-feed) of electrical energy daily from the IID power system. This energy would be used to operate the solar panel trackers, the on-site security system and the solar facility monitoring and control system when the solar panels are not generating power.

Air Quality

Normal operations of the Project would not result in any direct air emissions from the electricity production process as the PV solar panels convert sunlight directly into DC electricity. No fossil fuels are consumed in the process and no pollutants are emitted during normal operations. Daily air pollutant emission sources are anticipated to be limited to vehicular traffic and small engines associated with operations and maintenance activities.

Hazardous Material Handling and Storage

The Project would not use or store large quantities of hazardous chemicals within the Project site during normal operations. Any hazardous materials brought to the Project site would be required to comply with all applicable local, state and federal regulations.

F. DECOMMISSIONING AND RECLAMATION PLANS

The Project is processing a Development Agreement with Imperial County to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of

the CUP or CUPs anytime within a 10-year period. Thereafter, the CUPs are valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved. The proposed Project is expected to operate for up to 40 years. At the end of its useful life, the Applicant proposes to decommission the Project and reclaim the area associated with surface disturbance. Given that decommissioning occurs at the end of the Project life and construction occurs at the beginning of the Project and must occur within the first 10 years, no project-related construction is anticipated to occur at the same time as decommissioning. Roads that benefit agricultural activities would be left in place.

The planned operational life of the facility is approximately 40 years. However, if the facility continues to be economically viable, it could be operated for a longer period subject to County approval and applicable CEQA review. The Project Reclamation Plan that will be implemented at the end of the Project's life, and will adhere to Imperial County's decommissioning/reclamation requirements, including, but not limited to:

- Description of the proposed decommissioning measures for the facility and for all appurtenances constructed as part of the facility.
- Description of the activities necessary to restore the Project site to its previous condition. Such activities include removing and recycling solar equipment, storage equipment, medium voltage collector line, substation, and the two Gen-Tie lines. The soils would then be de-compacted and restored to agricultural purposes.
- Presentation of the costs associated with the proposed decommissioning/reclamation measures. Discussion of conformance with applicable regulations and with local and regional plans.

In the phased buildout, the phases will be decommissioned/reclaimed independently of one another.

I. Design Features and Best Management Practices

Table 2.0-6 identifies draft Applicant-proposed measures that would be incorporated into the proposed Project to reduce impacts to resources.

TABLE 2.0-6
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF THE DREW SOLAR PROJECT

AESTHETICS
Visibility
• The Project will provide landscaping at Project entrances and the operations and maintenance buildings.
• **AIR QUALITY**
• Comply with APCD Rule 800 during construction, including but not limited to the following: • Stabilize all disturbed areas with water, tarps, dust suppressants, or soil binders. • Most construction equipment will be equipped with EPA Tier 2 or better engine designation. • Bulk Materials shall be completely covered unless six 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. • Clean all Track-Out or Carry-Out 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. • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.

TABLE 2.0-6
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF THE DREW SOLAR PROJECT

HAZARDS AND HAZARDOUS MATERIALS
Prior to commencement of construction of a CUP, all trash and debris will be removed from the CUP parcels of the Project and properly disposed.
HYDROLOGY AND WATER QUALITY
Construction Activities
Prior to the issuance of the first grading permit, the developer shall prepare and submit a Storm Water Pollution Prevention Plan (SWPPP) and receive coverage under the General Construction National Pollutant Discharge Elimination System Permit from the California State Water Resources Control Board. The SWPPP shall include source control and treatment control BMPs. Possible source control BMPs include, but are not limited to: • trash storage; • integrated pest management; • efficient irrigation and landscape design; and, • property owner educational materials regarding source control management. Treatment control BMPs will be comprised of detention basins to remove trash and pollutants such as sediment, nutrients, metals, bacteria, oil and grease, and organics.
GEOLOGY AND SOILS
Prior to approval of final engineering and grading plans for the Project, the County shall verify that all recommendations contained in the Geotechnical Investigation Report have been incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the Project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design. The County's Public Works Department shall review grading plans prior to finalization, to verify plan compliance with the recommendations of the Geotechnical Investigation Report. All development on the Project site shall be in accordance with Title 24, California Code of Regulations.
TRANSPORTATION AND CIRCULATION
Construction traffic will minimize use of unpaved roads to the extent feasible. Roads will be photographed prior to construction and Project related impacts to County roads will be repaired. Before construction a Traffic Control Plan will be prepared for the Imperial County Department of Public Works, and a Traffic Management Plan will be prepared for Caltrans for SR 98 encroachments.
PUBLIC HEALTH AND SAFETY
Fire Prevention
A Fire Prevention and Response Plan (FPRP) will be developed and implemented during construction, operation, and maintenance of the Project.
Security
• The Project will contract with a security company to protect the facility. • A six-foot tall fence with 3 strands of barbed wire will be placed along the Project perimeter to keep people out of the facility.

TABLE 2.0-6
APPLICANT PROPOSED MEASURES INCLUDED AS PART OF THE DREW SOLAR PROJECT

NOISE
The use of noise-generating and vibration-generating construction equipment will not begin before 7:00 a.m. during weekdays or 9:00 a.m. on Saturday per the County General Plan Noise Element.
Source: Drew Solar 2018a.

2.2 ALTERNATIVES

A detailed discussion of the Project Alternatives is provided in Chapter 5.0, Alternatives.

2.2.1 ALTERNATIVE 1 - REDUCED PRIME FARMLAND ALTERNATIVE

This alternative would exclude the portion of the proposed Project west of Drew Road where Prime Farmland occurs within CUP#17-0035 and CUP#18-0001, and would reduce potential impacts to Prime Farmland.

2.2.2 ALTERNATIVE 2 - NO PROJECT ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(1) requires that a No Project Alternative be analyzed in order to allow the decision-makers to compare the impacts of approving a proposed Project with the impacts of not approving the proposed Project. Under the No Project Alternative, the proposed Drew Solar Project would not be developed. No GPA, Zone Change, Variance, CUP applications, Parcel Map, Lot Tie Agreements or other Project entitlement or permit would be approved. The Project site could remain in its existing condition as agricultural land owned by the IID.

2.3 INTENDED USES OF THE EIR/AUTHORIZING ACTIONS

The EIR is intended to provide documentation pursuant to CEQA to cover all local, regional, and state permits and approvals which may be needed or are desirable in order to implement the proposed project. Discretionary actions and approvals by the Imperial County Planning Commission and/or Board of Supervisors for the proposed Project or its alternatives may include, but are not limited to:

2.3.1 DISCRETIONARY ACTIONS AND APPROVALS

A. COUNTY OF IMPERIAL

In conformance with Sections 15050 and 15367 of the CEQA Guidelines, the County of Imperial has been designated the "lead agency," defined as, "the public agency which has the principal responsibility for carrying out or approving a project." Discretionary actions and approvals by the Imperial County Planning Commission and/or Board of Supervisors for the proposed Project or its alternative(s) may include, but are not limited to:

Certification of the Final EIR

After the required public review for the Draft EIR, Imperial County will respond to written comments, edit the document, and produce a Final EIR to be considered for certification by the Board of Supervisors prior to making a decision on the Project.

Findings

Following certification of the EIR, the Board of Supervisors would consider approval of the Findings pursuant to CEQA Guidelines Section 15091.

Mitigation Monitoring and Reporting Program

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

General Plan Amendment

The proposed Project will require approval of a General Plan Amendment (GPA) (17-0006) to the Imperial County General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site. The Project shares a common boundary to an existing transmission source (i.e. the existing Drew Switchyard) and is adjacent to the existing Centinela Solar Project.

Zone Change

Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project site.

Parcel Map

The Project is processing a Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site (APNs: 052-170-039 and 052-170-067), including APN 052-170-030 to the north of the Project site as part of the Parcel Map. In doing so the net farmable acreage of the Project site will remain the same (762.8 net acres), and the gross acreage will increase from 844.2 gross acres to approximately 855 gross acres once the Parcel Map is recorded.

Conditional Use Permits

The proposed Project will require a total of six CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001). Five CUPs will be required to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Section 90508.02 and 90509.02; and one CUP (CUP#18-0001) to develop energy storage as a component of solar on lands currently zoned A-2 and A-3, per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 and A-3).

Variance

Variance (V#17-0003) for the entire proposed Project Area, including the existing Drew Switchyard, for power pole structures that are over 120 feet in height. With approval of the Variance, the proposed structures could be up to 180 feet in height.

Lot Tie Agreements

Lot Tie Agreement(s) to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another.

Development Agreement

The Project is processing a Development Agreement with Imperial County to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Thereafter, the CUPs are valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

B. 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 proposed 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:

- California Public Utility Commission (Authority to Enter into Power Purchase Agreement)
- California Department of Fish and Wildlife (Streambed Alteration Agreement)
- United States Fish and Wildlife Service (Section 7 Consultation)
- California Regional Water Quality Control Board (401 Water Quality Certification)
- United States Army Corps of Engineers (404 permit)
- Imperial County Air Pollution Control District
    - o Authority to Construct Permit for emergency backup generators

2.3.2 Subsequent/Concurrent Entitlements to Implement the Proposed Project

A variety of ministerial actions and permits may be required by Imperial County to implement the components of the Proposed Project, including, but not limited to:

- Grading Permit(s) for the solar field and energy storage site parcels: ICPDSD and ICDPW
- Construction Traffic Control Plan: ICDPW
- Building Permits: ICPDSD and other County Departments
- Dust Control Plan: ICAPCD
- Rule 310 Exemption: ICAPCD
- Site Plan and Architectural Review: ICPDSD
- Construction Traffic Control Plan: ICDPW
- Encroachment Permits for access to the project parcels from County roads, and for any proposed Country road crossings: ICDPW
- Occupancy Permits: ICPDSD
- On-site Water Treatment Permit: ICPDSD /Imperial County Environmental Health Services (ICEHS)
- Private Sewage Disposal Permit to construct and operate a septic system and leach field for the O&M building(s), if proposed: ICEHS
- Reclamation Plan/Decommissioning Plan: ICPDSD/ICDPW
- Minor-modifications to CUP to implement changes responsive to market conditions or changes imposed by other agencies with jurisdiction over the Proposed Project: ICPDSD
- Vacation of easements: ICDPW
- Abandonment of rights-of-way: ICDPW
- Pest Management Plan: Imperial County Agricultural Commissioner's Office
- Review of Plans/Access and Fire Water Requirements: Imperial County Fire Department

2.3.3 ACTIONS AND APPROVALS BY OTHER AGENCIES

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

A. IMPERIAL IRRIGATION DISTRICT (IID)

Various approvals may be required from IID in conjunction with implementation of the proposed Project.

For the purposes of CEQA, wherever an IID facility (drain, irrigation canal, electric line, etc.) intersects the Project, an encroachment will occur as the Proposed Project would cross IID facilities with access points and project electrical crossings. The Proposed Project may also drain into IID drain facilities. Due to the preliminary nature of the Project and the rapidly changing technology, the exact locations of proposed access and drainage encroachments, and project electrical crossings, are not known at this time; however approximate access points and crossing locations have been provided in **Figure 2.0-3**.

The Project encroachments/crossings will not interfere with the purpose of IID's facilities. The following IID approvals, although not discretionary approvals, include, but are not limited to:

- Encroachment Permits/Agreements
- Electrical Crossings
- Water Supply Agreements
- Backfeed Service Agreement
- Electric Service Agreement

B. CALIFORNIA DEPARTMENT OF TRANSPORTATION

The two Gen-Tie lines will cross SR 98 either above or below ground. Project access points are also proposed along SR 98. Although not a discretionary approval, these crossings will require encroachment permits from the California Department of Transportation (Caltrans), as well as approval of a water pollution control program and transportation management plan by Caltrans.

C. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

General Construction Storm Water Permit Notice of lntent/Storm Water Pollution Prevention Plan.

CHAPTER 3.0

INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS AND ASSUMPTIONS USED

The following is an introduction to the environmental impacts analysis and general assumptions used in the project specific and cumulative analyses. Individual sections of the Draft Environmental Impact Report (DEIR) include assumptions, methodology and standards of significance relevant to each applicable environmental factor identified through preparation of the CEQA Appendix G Environmental Checklist Form (The Checklist Form is included on the attached CD of Technical Appendices as **Appendix A** of this SEIR).

3.1 ANALYSIS ASSUMPTIONS GENERALLY USED TO EVALUATE THE IMPACTS OF THE PROJECT

3.1.1 BASELINE ENVIRONMENTAL CONDITIONS ASSUMED IN THE DRAFT EIR

Section 15125(a) of the CEQA Guidelines requires that an EIR include a description of the physical environmental conditions in the vicinity of the project as they exist at the time the Notice of Preparation (NOP) is published. The CEQA Guidelines also specify that the description of the physical environmental conditions is to serve as the baseline physical conditions by which a lead agency determines whether impacts of a project are considered significant.

The environmental setting conditions of the Drew Solar Project site and the surrounding area are described in detail in sections 4.1 through 4.13 of this DEIR. In general, these discussions describe the conditions of the Project site and the surrounding area as they existed at the time the NOP for the Project was released in May 2018 (SCH NO. 2018051036) (see subsection 3.2, "Approach to the Cumulative Impact Analysis" below).

3.1.2 GENERAL PLAN CONSISTENCY ANALYSIS

As required by CEQA Guidelines 15125(d), each relevant environmental factor analyzed in sections 4.1 through 4.13 has been evaluated for consistency with policies contained in the Imperial County General Plan (January 18, 1993, with updates and amendments through March 8, 2016). The general plan consistency analysis is presented in tabular form. Applicable policies appear in the left column; the middle column identifies whether the project is consistent (yes or no) with the policy; and the right column includes an analysis of the consistency or inconsistency.

3.1.3 PROJECT CONSTRUCTION EFFECTS

The proposed Project is a 100-mega-watt solar energy generating system that will use photovoltaic (PV) technology. The Project also proposes a battery storage component provided it is at a 2 to 1 ratio. During construction, impacts such as dust, equipment noise, and increased traffic volumes are anticipated to occur. Construction phase impacts would be reduced to a level which is less than significant through the implementation of mitigation measures for the following resource areas: agricultural resources; biological resources; cultural resources; geology and soils; hazards and hazardous materials; and transportation and circulation. Project construction impacts specific to each environmental factor are evaluated in sections 4.3, Transportation; 4.6 Geology & Soils; 4.7 Cultural Resources & Tribal Cultural Resources; 4.9 Agricultural Resources; and 4.12 Biological Resources; and 4.14 Energy (refer to subsections 4.3.3, 4.6.3, 4.7.3, 4.9.3 4.12.3 and 4.14.3, "Impacts and Mitigation Measures").

3.1.4 PROJECT BUILDOUT ASSUMPTIONS

For the purpose of this EIR analysis, two buildout scenarios are considered for the Solar Energy Generation Facility Component of the Project:

Full Build-out Scenario

A worst-case scenario (Full Build-out Scenario) assumes that the full buildout of the Solar Energy Generation Facility Scenario is implemented at one time, resulting in all six of the site parcels undergoing temporary conversion from agricultural land to a solar energy generation facility simultaneously over an 18-month build-out period.

Phased CUP Scenario

The incremental construction of the Project proposes build-out of the six parcels in five phases over a ten-year period as market conditions demand (Phased Build-out Scenario). The ten-year period was established because the CUPs require construction to begin within 10 years pursuant to the provisions of the Development Agreement.

Project operational impacts, such as air quality/greenhouse gas emissions, noise, glare, biological, and transportation and circulation are evaluated in sections 4.1 through 4.13 of the EIR (refer to subsections 4.1.3, 4.2.3, 4.3.3, etc., "Impacts and Mitigation Measures"). Build-out of the Project is assumed to occur in the context of other cumulative projects which are currently approved, proposed or reasonably foreseeable.

3.2 APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

3.2.1 DEFINITION OF CUMULATIVE SETTING

CEQA Guidelines Section 15130 requires that EIRs include an analysis of the cumulative impacts of a project to determine if the project's effect is considered cumulatively considerable. As defined by CEQA Guidelines Section 15065(a)(3), "'Cumulatively considerable' 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."

CEQA Guidelines Section 15130(b)(1) goes on to identify two approaches for performing a cumulative analysis: 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 local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.

For the purposes of this cumulative analysis, a list approach is used. According to CEQA Guidelines Section 15130(b)(2), when using a list, it is important to consider the nature of each environmental resource being examined, the location of the project and its type. In keeping with these provisions, the cumulative project list was compiled in consultation with the ICPDSD. The projects identified were chosen because they represent past, present and reasonably foreseeable projects having similar effects to the proposed Project located in the vicinity of the proposed Project (southern Imperial County).

Table 3.0-1 lists the cumulative projects. **Figure 3.0-1** provides a graphical representation of each project's location.

TABLE 3.0-1
PROPOSED, APPROVED AND REASONABLY FORESEEABLE PROJECTS IN THE REGION

Project Number	Name of Project	Use	Project Description	Status
1	Big Rock Solar and Laurel Solar	Solar Facility	A PV solar facility capable of producing approximately 345 MWs of electricity generally located west of Drew Road and south of I-8.	Approved.
2	Calexico 1-A	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.	Approved April 2012.
3	Calexico 1-B	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.	Approved April 2012.
4	Calexico II-A	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.	Approved April 2012.
5	Campo Verde Battery Energy Storage System	Battery Storage	A 100 MW battery storage system for the Campo Verde Solar facility generally located west of Drew Road and south of I-8.	Approved January 2017.
6	Centinela Solar Phase 2	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located east of Drew Road and south of I-8.	EIR Approved, Pending Construction
7	Coyne Ranch Specific Plan	Specific Plan	A residential project with up to 546 residential units located at 1642 Ross Road.	In process.
8	County Center II Expansion	Mixed-Use	A mixed-use project of a commercial center, expansion of the Imperial County Office of Education, a Joint-Use Teacher Training and Conference Center, Judicial Center, County Park, Jail expansion, County Administrative Complex,	Completed Certificate of Occupancy

TABLE 3.0-1
PROPOSED, APPROVED AND REASONABLY FORESEEABLE PROJECTS IN THE REGION

Project Number	Name of Project	Use	Project Description	Status
			Public Works Administration, and a County Administrative Complex located on the southwest corner of McCabe Road and Clark Road.	
9	IV Substation and SDG&E Ocotillo Solar	Transmission Line	A project connecting the Imperial Irrigation District's "S" line from the Imperial Irrigation District substation to the Imperial Valley substation and a PV solar facility capable of producing approximately 14 MWs of electricity generally located adjacent to the SDG&E Imperial Valley Substation.	IV Substation Completed. Ocotillo Solar not is not an active application but is reflected here to be conservative.
10	IRIS Solar Farm Cluster (Ferrell, Rockwood, Iris, and Lyons)	Photovoltaic Solar Facility	PV solar facilities capable of producing approximately 360 MWs of electricity generally located north of SR-98 between Brockman Road and Weed Road.	Approved February 2015.
11	Wistaria Ranch Solar Energy Center	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 250 MWs of electricity generally located 8 miles west of the City of Calexico.	Approved December 2014.
12	Vega Solar	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located west of Drew Road and south of I-8.	Planning Commission, March 2019.
13	Le Conte Battery Storage System	Battery Storage	Battery storage system proposed on 2.0 acres within the Centinela Solar Facility capable of strong 125 MWs.	CUP Application, July 2018. Board of Supervisors Approval Anticipated Spring 2019.

Source: ICPDSD 2018a.

3.2.2 CONSIDERATION OF CUMULATIVE IMPACTS

While the cumulative projects list establishes past, present and probable large-scale solar projects to consider in combination with the proposed Project, the cumulative setting varies for each environmental factor. The cumulative setting is established specific to each environmental factor based on the nature and extent of the resource or issue. Some environmental factors such as hazards and hazardous materials may be highly localized. In contrast, environmental factors such as air quality and seismicity may be regional in nature. Still, some environmental factors demonstrate both aspects as in the case of geology and soils (site specific soils but more regional geology). In most cases, a geographic scope (in miles from the Project site, or as determined based on a natural our jurisdictional boundary) is identified.

When considering cumulative impacts, the analysis examines whether the overall long-term impacts of all such projects would be cumulatively significant and whether the projects would cause a "cumulatively considerable" (and thus significant) incremental contribution to any such cumulatively significant impacts (CEQA Guidelines Sections 15064(h),15065(c),15130(a), 15130(b), and 15355(b)). To fulfill these two levels of analysis, the project is assessed with regard to its incremental contribution to anticipated cumulative impacts within a geographic scope that extends beyond the project site. The geographic scope is determined for each individual issue area. The next level of analysis determines if the project's incremental contribution to any significant cumulative impacts from all projects is itself significant (i.e., "cumulatively considerable).

CEQA Guidelines Section 15355 defines a cumulative impact as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." A cumulative impact occurs from "the change in the environment which results from the incremental impact of the projects when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time" (CEQA Guidelines Section 15355[b]).

This DEIR evaluates the cumulative impacts of the project for each environmental factor with respect to geographic scope, in combination with past and present (existing) and reasonably foreseeable future projects in the area, and incremental contribution to the cumulative effects.

Chapter 5.0, Cumulative Impacts Summary, provides a summary of the cumulative impacts identified in sections 4.1 through 4.13 (refer to subsections 4.1.4, 4.2.4, 4.3.4, etc., "Cumulative Setting, Impacts and Mitigation Measures").

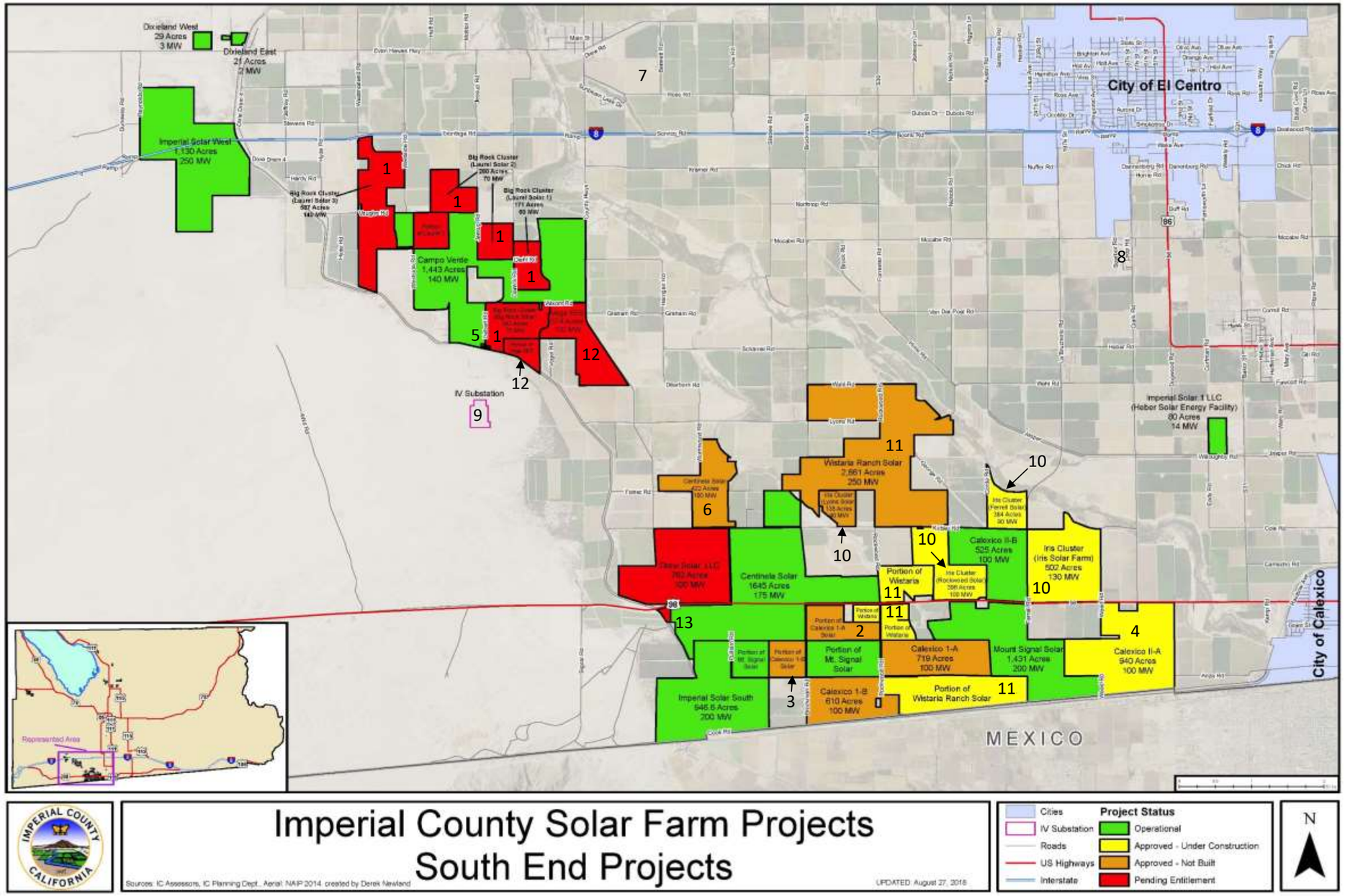


FIGURE 3.0-1
IMPERIAL COUNTY CUMULATIVE PROJECTS LOCATION MAP

CHAPTER 4.0
ENVIRONMENTAL ANALYSIS

This chapter provides a brief overview of the thirteen environmental factors covered in the environmental analysis. This chapter also orients the reader to the order of each environmental factor and the format of each individual section.

ORDER OF ENVIRONMENAL FACTOR SECTIONS

Following preparation of the Initial Study, thirteen environmental factors from the CEQA Appendix G Environmental Checklist emerged as requiring further analysis in the EIR. The sections representative of each environmental factor are presented in the same order that they are listed in CEQA Appendix G.

Section 4.1 – Aesthetics

Section 4.2 – Land Use

Section 4.3 – Transportation

Section 4.4 – Air Quality

Section 4.5 – Greenhouse Gases

Section 4.6 – Geology and Soils

Section 4.7 – Cultural Resources & Tribal Cultural Resources

Section 4.8 – Noise

Section 4.9 – Agricultural Resources

Section 4.10 – Hazardous and Hazardous Materials

Section 4.11 – Hydrology and Water Quality

Section 4.12 – Biological Resources

Section 4.13 – Public Services and Utilities

Section 4.14 – Energy

SECTION FORMAT

As a general rule, each section has been formatted in the following order. In the case of Greenhouse Gases (GHG), GHG emissions generated by an individual project are evaluated on a cumulative basis due to the global nature of climate change and GHGs and their potential effects.

REGULATORY FRAMEWORK

This subsection orients the reader to the three levels of regulation that may be applicable to the proposed project for each environmental factor.

Federal – Identifies relevant federal laws and regulations applicable to the proposed project.

State – Identifies relevant state laws (Assembly Bills, Senate Bills) and regulations applicable to the proposed project.

Local – Identifies local plans, policies and standards applicable to the proposed project.

ENVIRONMENTAL SETTING

This subsection describes the existing conditions that characterize the lands to be developed with the proposed Project and the surrounding area as applicable.

IMPACTS AND MITIGATION MEASURES

This subsection identifies the project-specific impacts and mitigation measures, as applicable for each environmental factor analyzed during construction, operation and decommissioning of the Project. The analysis is broken out to discuss impacts that apply to the Full Build-out Scenario as well as to specific CUP#17-0031 thru CUP#17-0035 and CUP#18-0001 under the Phased Buildout-Scenario as appropriate. The analysis is intended to support each CUP independently, multiple CUPs, as well as the Full Build-out Scenario throughout construction, operation and decommissioning.

Construction

Potential environmental effects resulting directly or indirectly from construction of the Project. Construction impacts are typically quantified with mitigation identified as appropriate.

Operation

Potential impacts occurring over the 30-year operational life of the Project (or 40 years if a 10-year extension is requested and approved). These impacts result from, or are associated with, operating and maintaining the Project and its various components. Operational impacts are typically quantified with mitigation identified as appropriate.

Decommissioning/Reclamation

Potential impacts occurring during decommissioning/reclamation. Such impacts are typically similar to those occurring during construction. These impacts are generally discussed at a qualitative level.

Detailed analysis of other environmental impacts (including aesthetics, noise, traffic, air quality, and biological resources, etc.) that would result from the Project's construction, operation and decommissioning are discussed in Sections 4.1, and 4.3 through 4.14 of this EIR.

STANDARDS OF SIGNIFICANCE

The standards of significance identify criteria from CEQA Appendix G Environmental Checklist applicable to each environmental factor.

ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

This subsection notes any issues which were scoped out as a result of the Initial Study and briefly explains why they are not included in the discussion.

METHODOLOGY

This subsection describes how the impact analysis was performed. Specific studies, techniques and research performed relevant to the environmental factor are identified.

PROJECT IMPACTS AND MITIGATION MEASURES

This subsection includes a concise impact statement that pertains to a specific standard of significance. The impact statement includes a title, a number, and a conclusion summarizing the level of significance.

Following the impact statement, a discussion is provided explaining the analysis conducted and further substantiates the conclusion of the impact statement. The discussion is divided between Full Build-out Scenario and Phased CUP Scenario, as appropriate.

Mitigation Measures

If necessary, mitigation measures are provided to reduce, minimize or alleviate the impact identified. The mitigation measures are numbered to correspond with the impact number and are designated to

apply to the between Full Build-out Scenario and/or specific CUP#17-0031 thru CUP#17-0035 and CUP#18-0001, as appropriate.

Significance After Mitigation

A brief concluding assessment is provided explaining the effectiveness of the mitigation and any remaining significance following implementation of the mitigation measure.

CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

Cumulative Setting – Provides a brief explanation of the cumulative setting specific to each environmental factor.

Cumulative Impacts and Mitigation Measures - This subsection includes a concise impact statement that pertains to a specific standard of significance. The impact statement includes a title, a number and a conclusion summarizing the level of significance.

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SECTION 4.1

AESTHETICS

This section defines terms used to assess visual quality and describes the existing visual resources in the vicinity of the solar field site parcels that could potentially be affected by the construction and operation of the proposed Drew Solar Project. This section also examines the potential for the proposed Project to degrade the existing visual character or quality of the solar field site parcels and surrounding areas through changes in the existing landscape. Key Observation Points (KOPs) are identified from which the view of the Project Site is analyzed. Potential effects are evaluated using photo simulations.

DEFINITIONS AND TERMINOLOGY

The following definitions of key terms are provided to describe and assess potential visual impacts.

- **Key Observation Point (KOP)**. A point along a travel route or an area where a view of the proposed Project would be visible.
- **Scenic Vista**. An area that is designated, signed, and accessible to the public for the express purposes of viewing and sightseeing as designated by a federal, state, or local agency.
- **Scenic Highway**. A section of public roadway that is designated as a scenic corridor by a federal, state, or local agency.
- **Sensitive Viewpoints**. Views from a public park, a recreational trail, and/or a culturally important site are considered to have a high visual sensitivity and are considered examples of sensitive viewpoints.
- **Sensitive Receptors**. Areas subject to high visibility by a large number of people are considered to be sensitive receptors. Residential viewers typically have extended viewing periods and are generally considered to have high visual sensitivity.
- **Viewshed**. The landscape that can be viewed free of obstruction under favorable atmospheric conditions from a viewpoint or along a transportation corridor.

4.1.1 REGULATORY FRAMEWORK

A. STATE

Senate Bill 1467

Senate Bill 1467 established the Scenic Highway Program. SB 1467 declares: *"The development of scenic highways will not only add to the pleasure of the residents of this state, but will also play an important role in encouraging the growth of the recreation and tourist industries upon which the economy of many users of this State depends"*. There are no officially designated State Scenic Highways in Imperial County. Four areas are designated as Eligible State Scenic Highways, the closest of which to the Project Site is Interstate 8 (I-8) between the San Diego County line and its junction with State Route 98 (SR 98). This segment, known as Mountain Springs Grade, has a long, rapid elevation change, remarkable rock and boulder scenery, and plant life variations (County of Imperial 2008a). However, easternmost point of this segment is located approximately nine miles to the west of the Project Area and views from this segment are obstructed by intervening terrain.

B. LOCAL

Imperial County General Plan

Three elements of the Imperial County General Plan discuss issues relevant to the analysis of visual resources, the Land Use Element, the Circulation and Scenic Highways Element, and the Conservation and Open Space Element.

4.1 AESTHETICS

Table 4.1-1 analyzes the consistency of the proposed Project with the applicable goals and objectives relating to visual resources from the Imperial County General Plan. While this EIR analyzes the proposed Project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d), and can be used as substantial evidence to support a finding of consistency required under laws other than CEQA, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
LAND USE ELEMENT		
Regional Vision		
Goal 3: Achieve balanced economic and residential growth while preserving the unique natural, scenic, and agricultural resources of Imperial County.	Yes	The proposed Project is located in southwestern Imperial County, an area characterized by agricultural fields and solar development. The Project Site is a currently used for agricultural purposes and does not contain any designated scenic features. The proposed Project would not obstruct views of distant mountain ranges or degrade any scenic vistas as none are visible in the Project vicinity. The Project is consistent with the mixture of solar development and agriculture in this portion of the County. The conversion of the Project Site to a solar energy generation facility would be temporary, with required reclamation of the site to pre-Project soil conditions at the end of each CUP's operational life. The Project also proposes to co-locate transmission facilities with the Centinela Solar Project, thereby avoiding development of additional transmission infrastructure. The Project would be well maintained and kept free from weeds, include landscaping and an entry monument at each O&M building, and maintain the current non-urbanized, agricultural character along the perimeter of each CUP area. Therefore, the proposed Project is consistent with this Goal.
Objective 3.4 Protect/improve the aesthetics of Imperial County and its communities.	Yes	Refer to the discussion above under Land Use Element Goal 3.

TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CIRCULATION AND SCENIC HIGHWAYS ELEMENT		
Scenic Highways		
Goal 4: The County shall make every effort to develop a circulation system that highlights and preserves the environmental and scenic amenities of the area.	Yes	Refer to discussion below under Circulation and Scenic Highways Element Objective 4.3. The Project does not impede the development of a circulation system that highlights and preserves the County's environmental and scenic amenities.
Objective 4.3: Protect areas of outstanding scenic beauty along any scenic highways and protect the aesthetics of those areas.	Yes	There are no officially designated State Scenic Highways in Imperial County. The closest Eligible State Scenic Highway segment to the Project Site is along I-8, and ends approximately nine miles northwest of the Project Site. The Project Site is not visible from this segment due to natural topography. Refer also to discussion under Land Use Element Goal 3, above.

TABLE 4.1-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Preservation of Visual Resources		
Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Yes	The Project is located in an area already characterized by a combination of agricultural uses as well as several other solar developments. It is not zoned residential, commercial, or recreational. The Project Area does not possess any unique or outstanding visual qualities nor would it obstruct views of distant mountain ranges or nearby Mount Signal. Overhead utility infrastructure is currently visible along many roadways with in the Project Area and the proposed Gen-Tie pole and line(s), along with internal collector lines would increase the amount of utility structures in the area. Undergrounding or co-location of the proposed 400-foot long Gen-Tie lines with the Centinela Solar Project would protect the aesthetic character of the region by avoiding the need to add additional transmission infrastructure to connect to the Drew Substation. Therefore, the proposed Project is considered consistent with this goal.
Objective 5.1: Encourage the conservation and enhancement of the natural beauty of the desert and mountain landscape.	Yes	The Project vicinity includes several overhead electrical lines as well as transmission lines related to surrounding solar projects that are visible within the Project viewshed. The proposed Gen-Tie lines (if aboveground), solar generation and storage infrastructure, supporting O&M facilities and internal transmission lines would introduce new features to the landscape. However, the Project would not alter existing views of the desert and mountains. If not undergrounded, the tallest structures would be poles for one or both of the Gen-Tie lines proposed to be co-located with Centinela Solar Project infrastructure to minimize the amount of infrastructure added to the viewshed. Therefore, the proposed Project is consistent with this objective.

4.1.2 ENVIRONMENTAL SETTING

The visual setting includes six parcels of privately owned (IID), active agricultural land under the jurisdiction of Imperial County and located in the southwestern portion of the Imperial County.

A. REGIONAL

As described in the Open Space and Conservation Element of the General Plan (County of Imperial 2016a), Imperial County extends over 4,597 square miles between Riverside County to the north, Mexico to the south, San Diego County to the west, and Arizona to the east. The County's visual character varies greatly. It includes natural scenic visual resources such as deserts, sand dunes, mountains, and the Salton Sea. The nearest urbanized area to the Project site is the City of Calexico, located approximately 20 miles to the east. The small community of Ocotillo is located approximately eight miles to the northwest.

Desert areas include the Yuha Desert, West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa. The Yuha Desert contains unique geologic features including sand chimneys and painted gorge formations that add scenic value to the natural landscape. Cultural features in the Yuha Desert include large earth sculptures, or geoglyphs, constructed by prehistoric Native Americans. The West Mesa, lower Borrego Valley, East Mesa, and Pilot Knob Mesa consist of desert vegetation from the creosote scrub community. Other plants include ocotillo, mesquite, palo verde, saltbush, and encelia.

The eastern foothills of the Peninsular Range run along the County's southwest side, west of the Project Site. These foothills include the In-Ko-Pah or Jacumba Mountains, Coyote Mountains, and Fish Creek Mountains. Mount Signal, located southeast of the Project Site along the international border on the eastern edge of the Yuha Desert, is visible from most of the Imperial Valley.

The predominant views in Imperial Valley are of agricultural areas characterized by square or rectangular fields, typically 40 to 80 acres in area, interspersed with scattered farmhouses and related agricultural structures. These agricultural regions are also crossed by irrigation canals and drainages that parallel dirt farm roads. Certain areas previously used as farmland are being converted to solar power facilities. As of the 2016 update to the General Plan Open Space of Conservation Element, 23,000 acres of solar development had been proposed under various stages of review and/or approval (County of Imperial 2016a).

B. SURROUNDING AREA

SR 98 and several paved rural roads align through the Project Site and surrounding vicinity. The area is predominantly flat as most of the land has been leveled to facilitate irrigation. The surrounding properties are approximately the same elevation as the Project Site. Properties surrounding the Project Site are either in active agricultural use or solar energy facilities constructed over the past several years. Agricultural fields are located along the northern portion of the Project Site.

Agricultural fields and a sliver of vacant desert land are located to the west. Dirt field roads are located along the margins of the individual fields. Numerous canals, ditches and drains owned by the Imperial Irrigation District (IID) are located throughout the area providing irrigation water and drainage to the individual fields. The rest of the area is predominantly agricultural with very few residences and agricultural buildings. A rural residence and farm equipment repair shop is located adjacent to the southern boundary of the Project Site between Drew Road and SR 98. The Westside Main Canal is located adjacent to the southwestern boundary of the Project Site (GS Lyon 2018). The other solar projects include Centinela Solar, the Mount Signal and Calexico Solar projects, Campo Verde Solar, Wistaria Ranch Solar

and Imperial Solar Energy Center South. The Project Site is surrounded on two sides by the existing Centinela Solar Project and is adjacent to the existing Drew Switchyard. A majority of the projects in the area interconnect to the Drew Switchyard.

Views of the surrounding area from roadways consist of agricultural fields, solar energy facilities, small outcroppings of trees along the edges of agricultural fields, and existing electrical transmission or distribution as well as overhead telephone lines. However, Mount Signal dominates views to the south and mountains are visible in the distant background from most vantage points along area roadways and from the agricultural fields.

Based on the nonurbanized, rural nature of the surrounding landscape, very little nighttime illumination is generated in this area of the County. The primary source of light and glare in the area is from motor vehicles traveling on surrounding roadways. Likewise at night, vehicle headlights on surrounding roadways generate light and glare. Warning lighting is also located on existing transmission lines throughout the region to alert aircraft of potential flight path hazards. Glare is generated during daytime hours from the sun's reflection off of cars and paved roadway surfaces.

C. PROJECT SITE

The proposed Project Site is on IID-owned land in the unincorporated area of Imperial County, approximately nine miles west of the City of Calexico (refer to **Figure 2.0-1** in Chapter 2.0, Project Description). The Project Site is generally bounded by Kubler Road on the north, Mandrapa Road on the west, and Pulliam Road on the east. Drew Road bisects the Project Site in a north-south alignment. SR 98 aligns along the southern border of the Project Site and is the major west-east arterial road in the area. Like the surrounding area, the solar field site parcels where the CUPs are proposed are dominated by agricultural fields (Bermuda grass), earthen berms associated with the irrigation and drainage systems, and overhead power and telephone lines. The existing gen-tie structures constructed for the Centinela Solar Project are immediately adjacent to the southern boundary of the Phase 1 parcel (CUP 17-0031). The solar field site parcels are being farmed for flat crops. No residences are located within the boundaries of the Project site.

D. VIEWSHED

Existing views of the Project Area are available from the surrounding roadways, specifically from SR 98 as well as the other roads (Mandrapa Road, Pulliam Road, Drew Road, Kubler Road) that align along and through the solar field site parcels. **Figure 4.1-1** shows the Key Observation Points (roadways and residential structures) within one mile of the Project site.

Due to the flat topography of the solar field site parcels and the surrounding vicinity, the existing overhead utility lines are the only readily visible feature from many viewpoints. No other unique topographical features are associated with any of the solar field site parcels. Mount Signal is a dominant visual feature to the south (approximately 2.5 miles away). The Yuha Buttes and Coyote Mountains are visible in the far distance looking west and northwest.

4.1.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to visual resources if it would result in any of the following:

a) Have a substantial adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, but limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion "b" was eliminated from further evaluation as part of the Initial Study because the Project Site is in agricultural production and does not contain any scenic resources including trees, rock outcroppings or historic buildings. Likewise, SR 98 is not a Scenic Highway; therefore, no scenic resources or state scenic highways would have the potential to be damaged as result of a Project implementation, and this issue is not be discussed further in this EIR.

C. METHODOLOGY

Analysis of impacts to visual character is subjective by nature because the qualities that create an aesthetically pleasing setting will vary from person to person. For purposes of this analysis, the Project Site and its vicinity have been surveyed in order to consider the existing community character and determine the proposed Project's consistency with the surrounding area and with applicable General Plan goals, objectives, policies and programs. The evaluation of impacts were based on professional judgment; the existing aesthetic conditions (including presence of nighttime illumination and glare sources); analysis of the Imperial County General Plan goals and objectives related to visual resources; and the significance criteria established by CEQA. Aesthetic resources are defined as both natural and built features of the landscape that contribute to the public's experience and appreciation of the visual environment. Aesthetic impacts are determined on a qualitative basis through a comparison of the visual environment before and after a project is implemented. This section addresses the visual condition or character of the Project area and its vicinity, and the potential for the proposed Project to adversely affect those conditions. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, aesthetic impacts may occur.

Glare Study

Glare may result if radiation (light) from the sun is reflected from the PV modules or associated infrastructure and directed towards a viewer resulting in an annoyance, distraction, or nuisance. Glare produced by any surface is affected multiple variables, including time of day, reflectivity of the surface, and the directionality of reflections relative to the position of a potential viewer. Potential viewers may be situated at a variety of viewing locations including stationary or mobile, at ground-level or from the air.

Power Engineers, Inc. performed a Glare Study for the proposed Project to identify potential glare impacts to motorists and surrounding residences that could result from the installation and use of single-axis tracking photovoltaic (PV) solar technology (Power Engineers, Inc. 2018; **Appendix B**). This represents a worst-case scenario of the technologies being considered. To understand the methodology and results of the Glare Study, the following definitions are provided:

- **Photovoltaic Panel** – Photovoltaic panels, also known as PV panels, are designed to absorb solar energy and retain as much of the solar spectrum as possible in order to produce electricity.
- **Key Observation Points (KOP)** – KOPs refer to locations with sensitivity to potential glare. For this study, KOPs included roadways and residential structures within one mile of the Project (refer to **Figure 4.1-1**).
- **Single Axis Solar Tracker** – Single axis solar trackers are designed to maximize the efficiency of a PV panel operation. PV panels mounted to a single axis tracker rotate around a fixed axis allowing PV panels to track the sun's east/west position throughout the day (see **Figure 4.1-2**).
- **Glare** – A continuous source of brightness, relative to diffuse or surface scattered lighting. For purposes of this study, glare is caused by the sun reflecting off solar panels (see **Figure 4.1-3**).
- **GlareGauge** – The GlareGauge tool uses Solar Glare Hazard Analysis Tool (SGHAT) technology. Developed by Sandia National Laboratories, this tool is a web-based application that predicts the potential for solar glare and ocular impacts from solar technologies (see https://share.sandia.gov/phlux/). The GlareGauge tool and SGHAT technologies have become the Federal Aviation Administration standard for analyzing solar glare for both terrestrial and aerial viewers.

The methodology used to determine the location and duration of potential glare is described and illustrated below.

Identify Potential Glare Issues

Identify where glare may be visible from nearby roadways or residences. As discussed above, Google Earth aerial imagery was used to identify any major structures within one mile of the Project. Proposed solar operations were then studied from Key Observation Points (KOPs) located at 18 surrounding residential structures and four roadways adjacent the Project Site (see **Figure 4.1-4** through **Figure 4.1-8**). All residential structures and roadways were analyzed up to one mile from the Project Area.

Characterize Glare Behavior

Power Engineering, Inc. utilized the GlareGauge tool to determine when and where solar glare may occur throughout the day and year (see https://share.sandia.gov/phlux/). The GlareGauge tool allows input of viewer position, solar facility location, solar technology, and elevation data. The GlareGauge tool provides a quantified assessment of when and where glare may occur throughout the year from a solar installation, as well as identifying the potential effects on the human eye if glare does occur. Technical specifications of proposed PV solar equipment considered include panel dimensions, type, angle, orientation, and placement as described below:

- Single Axis Trackers
- Panel Orientation: North/South
- Panel Rotation Limits: ± 60 degrees
- Coating/Texture: Smooth Glass with AR Coating
- Rack Height: 4 feet above grade

Evaluate

Once glare was characterized, visual analysts documented the occurrence and hazard level of potential glare. Glare was analyzed at one-minute intervals throughout the entire year to determine when and where glare may be visible to nearby residences and motorists from the identified KOPs.

The proposed Project was analyzed to evaluate and document any occurrences of glare that would potentially cause distractions to nearby residences and motorists (Power Engineers, Inc. 2018). Google Earth aerial imagery was used to identify any major structures within one mile of the Project. Proposed solar operations were then studied from Key Observation Points (KOPs) located at 18 surrounding residential structures and four roadways adjacent the site (see **Figure 4.1-1** and **Table 4.1-2**). All residential structures and roadways were analyzed up to one mile from the Project. The location and analysis height of each KOP group is described below.

Surrounding Residential Structures

- Distance from Project: 0-1.0 mile
- Viewer Height: 8 feet

Roadways

State Route 98:

- Location relative Project: South
- Viewer Height: 6-10 feet
- Direction of Travel: East/West

Drew Road:

- Location relative Project: West
- Viewer Height: 6-10 feet
- Direction of Travel: North/South

Pulliam Road:

- Location relative Project: East
- Viewer Height: 6-10 feet
- Direction of Travel: North/South

Kubler Road:

- Location relative Project: North
- Viewer Height: 6-10 feet
- Direction of Travel: East/West

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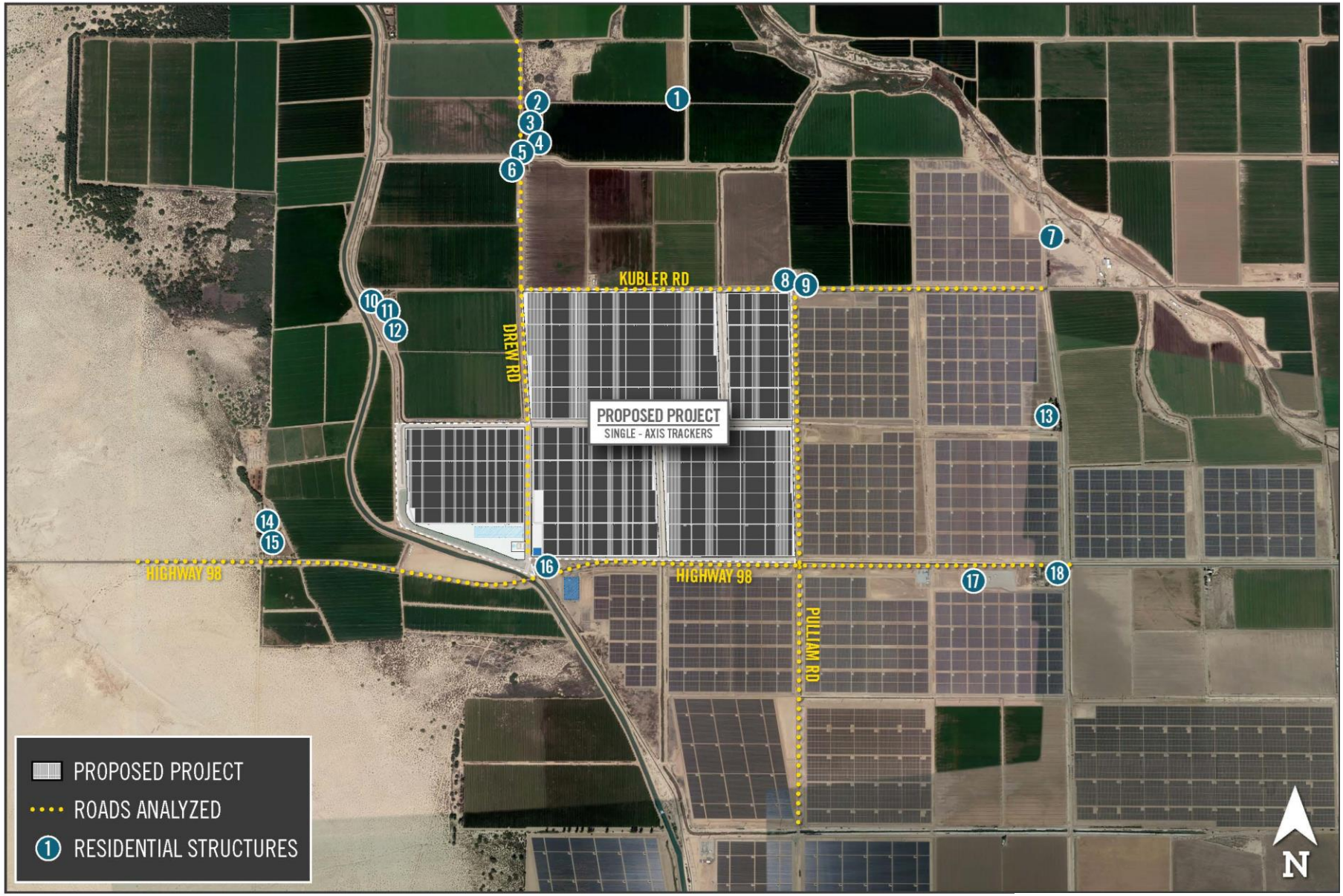

Source: Power Engineers 2018.

FIGURE 4.1-1
KEY OBSERVATION POINTS

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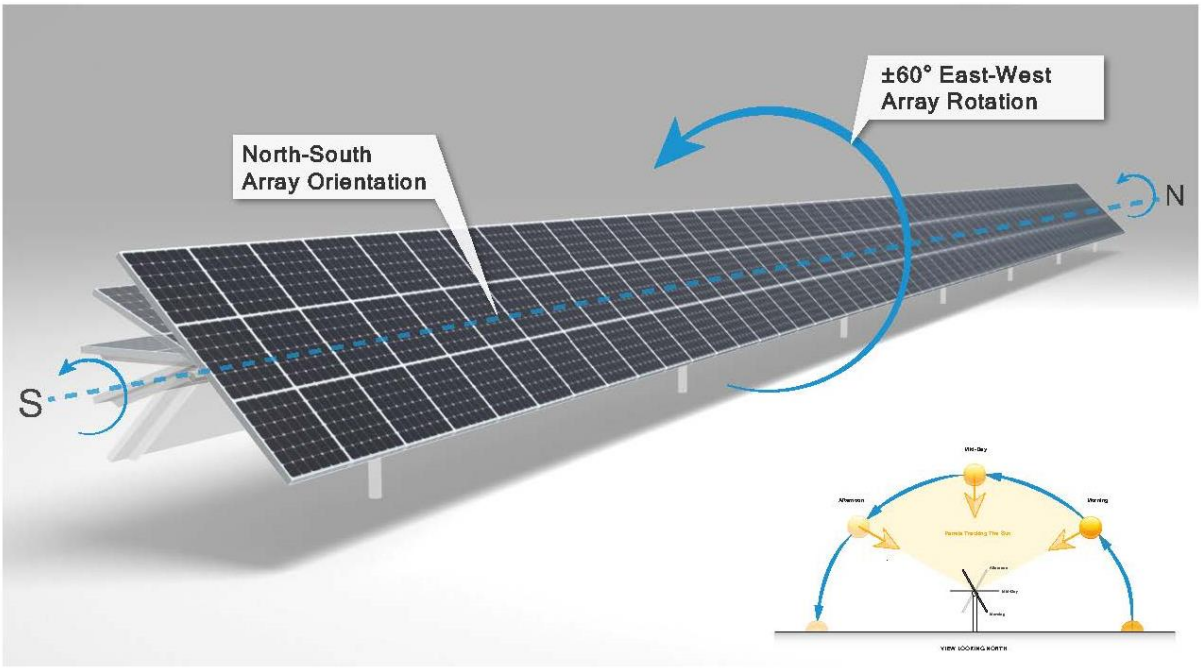
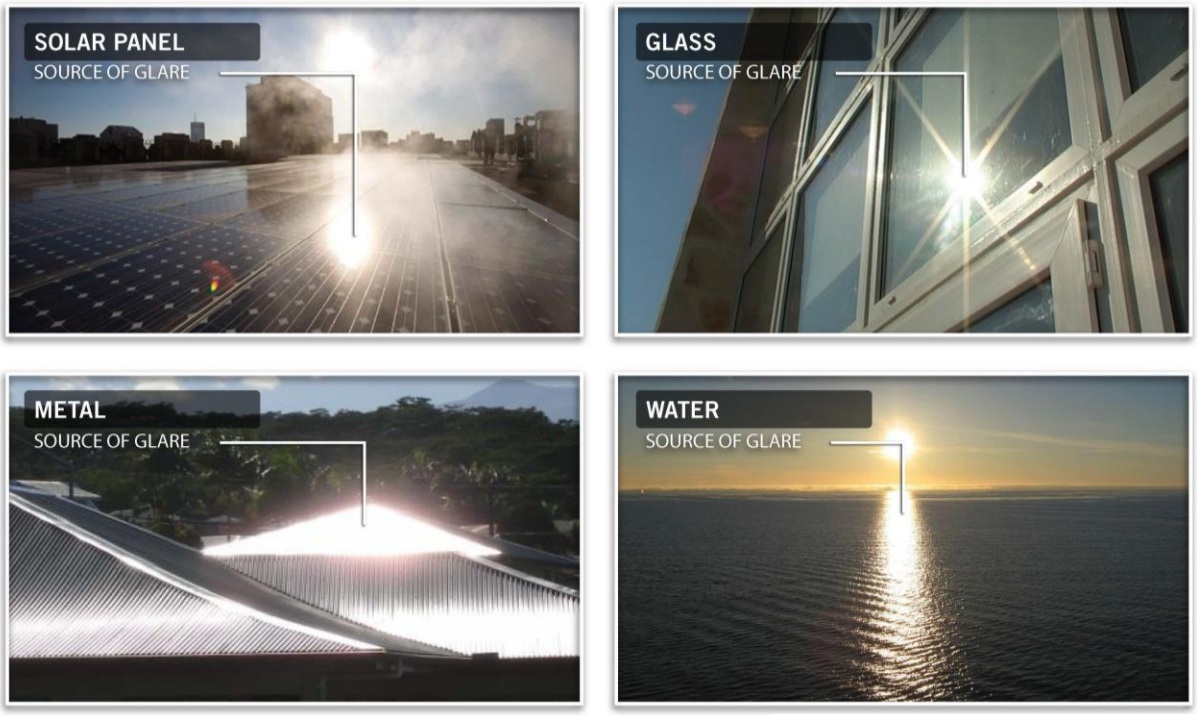


Source: Power Engineers 2018.

FIGURE 4.1-2
SINGLE-AXIS SOLAR TRACKER



Source: Power Engineers 2018.

FIGURE 4.1-3
EXAMPLES OF GLARE

D. PROJECT IMPACTS AND MITIGATION MEASURES

Adverse Effect on Scenic Vista

Impact 4.1.1 The Project Area is not considered a scenic vista nor does it contain any outstanding aesthetic features. Therefore, this impact is considered **less than significant** under both the Full-Buildout and Phased CUP scenarios.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Buildout of the Project site, the associated Drew Switchyard Component, and the two Gen-Tie lines would involve standard construction equipment including, but limited to, trucks, scrapers, cranes, and tractors. The presence of this equipment within the Project Area overall during construction would alter views of the area from non-urbanized, agricultural uses to a construction site. However, the views of construction activity from the surrounding vicinity would be temporary and would not involve any designated scenic vistas. Furthermore, no long term staging areas would be permitted near a residence during construction. In addition, the proposed Project represents an expansion of some facilities previously constructed and located within the boundaries of neighboring solar projects including co-locating with the existing Centinela Solar Gen-Tie infrastructure and improvements at the existing Drew Switchyard. Therefore, impacts to a scenic vista are considered **less than significant** during construction under both the Full Build-out Scenario and the Phased CUP Scenario**.**

Operation

The entire Project Area, inclusive of solar field site parcels within the Solar Energy Generation Component, as well as the Drew Switchyard and Gen-Tie Lines Component, is located in a non-urbanized portion of Imperial County with little topographic relief. Long-term modification of views in the area would result from the installation of solar modules and supporting infrastructure (e.g. PV panels, O&M buildings, water tanks, etc.) as well as the associated internal collector lines and the two 400-foot long Gen-Tie lines (if placed above-ground). However, the Project Area is not located in a designated scenic vista, nor has the Imperial County General Plan designated the Project Area as an important visual resource (Imperial County 2016a). In addition, none of the KOPs are located in a designated scenic vista. Under both the Full Build-out Scenario and the Phased CUP Scenario, the tallest structures associated with the Project that could be seen from a distant viewpoint would be the Gen-Tie poles and lines. However, the Project proposes to either underground both or one of the Gen-Tie lines. If placed above-ground, one Gen-tie line would be co-located with the existing Centinela Solar Project facilities, thereby minimizing the need for new infrastructure in the vicinity. Further, because the Project would connect directly to the Drew Switchyard, no additional off-site infrastructure lines would be required. SR 98 aligns along the southern boundary of the Project Site, and directly north of the Drew Switchyard to which the Project proposes to connect. However, SR 98 is not designated as state scenic highways nor are any of the roadways abutting or surrounding the Project Area designated or proposed scenic vistas. Therefore, both the Full Build-out Scenario and the Phased CUP Scenario would result in a **less than significant impact** to a scenic visual resource during Project operation.

Decommissioning/Reclamation

Decommissioning of the Project under the both Full Build-out Scenario and under the Phased CUP Scenario would involve standard construction equipment including, but limited to, trucks, cranes, and tractors. This equipment would be present throughout altering views of the Project Site and appear as a construction area. However, views of the decommissioning activity would be temporary and would not involve designated scenic vistas. Therefore, impacts to a scenic vista are considered **less than significant**

during Project decommissioning and would be a non-issue following reclamation for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Degrade Existing Visual Character or Quality of the Site and its Surroundings

Impact 4.1.2 The proposed Project would convert agricultural fields to a solar energy generation and storage facility thereby replacing flat crops with man-made structures. The Project would not significantly alter the overall character of the Project Area which is currently characterized by agricultural fields and solar energy facilities. Very few residences are in the area and agricultural land is not considered a significant visual resource. Therefore, impacts associated with changes to the existing visual character or quality of the site are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Short-term visual impacts would occur in association with construction activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the Project Area. Residents living near parcels undergoing construction would be subject to these visual changes throughout the duration of construction. If the Project is built out at one time (Full Build-out Scenario), construction is expected to take approximately 18 months. If the individual CUP areas are constructed over time (Phased-Build-out Scenario), construction of each CUP area could take approximately 12 months with construction of some CUP areas potentially overlapping one another. The equipment, materials, and labor involved in buildout of the Project remain similar under both the Full Build-out Scenario and Phased CUP Scenario. However, the Full Build-out Scenario where the Project is constructed over 18-months would result in greater intensity of labor and equipment during one timeframe, and therefore present the worst-case for construction-related visual impacts. The Phased CUP Scenario, which would allow buildout over a period of up ten years would be less intense because no single sensitive receptor (area resident or roadway traveler) would be exposed to visual impacts from construction in a single location for more than the estimated 12 months per CUP area.

While construction equipment and activity may present a visual nuisance, it is temporary and does not represent a permanent change in views. Therefore, impacts associated with degrading the existing visual character or quality of the Project Site during construction are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

Buildout of the proposed Project would change the existing use of all of the solar field site parcels under the Full Build-Out Scenario or under the Phased CUP Scenario. Currently, each of the solar field site parcels is used for agricultural production (Bermuda grass), the adjacent Centinela Solar Project site is currently developed as a solar energy generation facility, and the Drew Switchyard is an existing SDG&E electricity transmission facility. However, the proposed Project would not significantly alter the existing visual character of the area and its surroundings as a result of converting agricultural land to a solar energy generation with storage facilities because the area is currently characterized by agricultural fields and

solar generation facilities. Further, the Project Site is located in an area where the County has allowed a number of temporary land use conversions to solar energy projects. As such, the proposed Project would appear as an expansion of existing uses. The change in use would appear industrial rather than agricultural but would not displace or damage any outstanding aesthetic feature unique to the area or the County as a whole.

The number of viewers and the duration of views are additional factors to consider in assessing the significance of a visual impact to the character of a site and its surroundings. Very few private residences are in the Project vicinity. Likewise, traffic volumes on surrounding roadways are low and travelers along these roadways would be subject to views of the Project for short durations.

Courts have confirmed that "obstruction of a few private views in a project's immediate vicinity is not generally regarded as a significant environmental impact." (*Bowman v. City of Berkeley (2004) 122 Cal.App.4th 572, 586; see also Banker's Hill, Hillcrest, Park West Community Preservation Group v. City of San Diego (2006) 139 Cal.App.4th 249, 279.*) "Under CEQA, the question is whether a project will affect the environment of persons in general, not whether a project will affect particular persons." (*Mira Mar Mobile Community v. City of Oceanside (2004) 119 Cal.App.4th 477, 492. See also Porterville Citizens for Responsible Hillside Development v. City of Porterville (2007) 157 Cal.App.4th 885*). Furthermore, the solar arrays would cover most of the solar field site parcels, with small areas dedicated to the O&M and energy storage facilities, access roads and the electric collector lines. The solar array grids would provide uniform coverage over the Project site with the access roads forming a rectangular grid layout that would be oriented in a north-south or east-west direction. As such, the configuration of each CUP area would blend with and be consistent with the rectangular and row cropping patterns in the existing adjacent agricultural fields.

Under both the Full Build-out Scenario and the Phased CUP Scenario, the Project is required to comply with A-2 and A-2-R zoning regulations specifying a 30-foot front yard setback, 5- to 30-foot side yard setback, and 10-foot rear yard setback (County Code 90508.06), as well as A-3 zoning regulations specifying a 30-foot front yard setback, 10-foot side yard setback, and 10-foot rear yard setback(County Code 90509.06) as applicable based on the existing zoning. The Project is also required to comply with the height limits prescribed by County Code 90508.07 (except for the Gen-Tie poles that would be required to comply with the height limits (i.e. 180 feet) prescribed in the proposed height variance request.)

Thus, overall, operation of the Project under both the Full Build-out Scenario and the Phased CUP Scenario would result in a **less than significant impact** with regard to degrading the existing visual character or quality of the site.

Decommissioning/Reclamation

Short-term visual impacts would occur in association with decommissioning activities, including introducing heavy equipment (e.g., cranes), staging and materials storage areas and potential dust and exhaust to the Project Area. Residents living near CUP areas undergoing decommissioning would be subject to these visual changes throughout the duration of decommissioning activities. The equipment, materials, and labor involved in Project Site decommissioning remain similar whether it is decommissioned at once in its entirety (as a result of the Full-Build-out Scenario) or spread out by individual CUP Area (as a result of the Phased CUP Scenario). However, if the Full Build-out Scenario were decommissioned at one time, the decommissioning activities would result in greater (i.e. worst-case) intensity of labor and equipment and present the greatest visual impact to residents and travelers.

Portions, if not all, of the decommissioning would be visible to the residences located near CUP areas. Likewise, travelers along I 8, SR 98, Brockman Road, Rockwood Road, Kubler Road, and other roadways

adjacent to the Project Site would also experience visual changes associated with decommissioning activities. However, as various aspects of decommissioning are completed (e.g., PV panels, electrical lines, O&M structures), the corresponding equipment (e.g. cranes) would be eliminated from view. While decommissioning equipment and activity may present a visual nuisance, it is temporary and does not represent a permanent change in views. Thus, the impact of degrading the existing visual character or quality of the site for the Full Build-out Scenario and the Phased CUP Scenario is considered a **less than significant impact** during decommissioning and would be eliminated entirely following reclamation.

Mitigation Measures

None Required.

Significance After Mitigation

Not Applicable.

New Source of Substantial Light or Glare

Impact 4.1.3 The proposed Project includes non-reflective PV panels which are not anticipated to create glare. Likewise, the proposed lighting system would be designed to provide minimum illumination. Therefore, impacts associated with creation of substantial light and glare are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Light and Glare

There are no existing sources of light or glare at the Project Site, other than occasional glints from agricultural equipment working in the fields. Short-term sources of lighting would be introduced to the Project Area during construction as part of site security, materials storage and staging areas. Lighting at construction and staging areas throughout the Project Area would be designed and installed such that light bulbs and reflectors would not be visible from public viewing areas, and would not cause reflected glare in compliance with the County's lighting ordinance. Thus, impacts associated with a substantial increase in new sources of light and glare are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario during Project construction.

Operation

Light

The solar field site parcels and surrounding area are currently used for agricultural production and as such is not a source of light or glare. A lighting system is proposed as part of the Project which includes outdoor lighting in the common services areas secured to structures, equipment, walls and poles to provide illumination for maintenance vehicles and security. As described in Chapter 2.0, Project Description, the Project's lighting system would provide operation and maintenance personnel with illumination in both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be shielded and oriented to focus illumination on the desired areas, minimizing light spillover.

As previously noted, the proposed Project may be built out at one time over an 18-month period under the Full Build-out Scenario, or by each CUP Area over a period of up to 10 years under the Phased-Build-out Scenario. If built separately, each CUP area may have its own O&M building. However, the lighting system would be designed to provide nighttime lighting levels consistent with applicable Imperial County lighting standards. Thus, impacts associated with a substantial increase in new sources of light are

considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario during Project operation.

Glare

PV modules are designed to absorb as much light as possible to maximize efficiency. In addition, PV modules use anti-reflective coatings to decrease reflection and increase conversion efficiency. The time and duration of any potential reflections from the panels are determined by the orientation of the panels and the position of the observer in relation to the panels. All PV solar projects (regardless of the type of mounting structure) orient the panels perpendicular to the sun or as close to perpendicular as possible to maximize solar absorption and energy output. This results in the panels being oriented towards the sun as much as possible throughout the day and the course of the year as the position of the sun changes.

Table 4.1-2 summarizes the sensitive visual receptors directly adjacent, or in close proximity, to the Project Boundaries (refer also to **Figure 4.1-1** and **Appendix B**, Glare Study).

TABLE 4.1-2
SUMMARY OF SENSITIVE VISUAL RECEPTORS

Receptor Type	Location
Motorist	SR 98 East-Bound (see **Figure 4.1-4**)
Motorist	SR 98 East-Bound Left (see **Figure 4.1-5**)
Motorist	SR 98 West-Bound (see **Figure 4.1-6**)
Motorist	Drew Road North-Bound (see **Figure 4.1-7**)
Motorist	Drew Road South-Bound (see **Figure 4.1-8**)
Motorist	Kubler Road East-Bound (see **Figure 4.1-9**)
Motorist	Kubler Road West-Bound (see Figure **4.1-10**)
Motorist	Pulliam Road North-Bound (see Figure **4.1-11**)
Motorist	Pulliam Road South-Bound (see Figure **4.1-12**)
Residential KOP 1	North of Fisher Road, west of Drew Road
Residential KOP 2	Drew Road at Fisher Road
Residential KOP 3	Drew Road at Fisher Road
Residential KOP 4	Drew Road at Fisher Road
Residential KOP 5	Drew Road at Fisher Road
Residential KOP 6	Drew Road at Fisher Road
Residential KOP 7	Brockman Road, north of Kubler Road
Residential KOP 8	Kubler Road at Pulliam Road
Residential KOP 9	Kubler Road at Pulliam Road
Residential KOP 10	Mandrapa Road at Kubler Road
Residential KOP 11	Mandrapa Road at Kubler Road
Residential KOP 12	Mandrapa Road at Kubler Road
Residential KOP 13	Brockman Road at Brockman Drain
Residential KOP 14	North of SR 98 at Signal Road
Residential KOP 15	North of SR 98 at Signal Road
Residential KOP 16	SR 98 at Drew Road / Yuha Cutoff
Residential KOP 17	SR 98 at Brockman Road
Residential KOP 18	SR 98 west of Brockman Road

Source: Power Engineers, Inc. 2018.

The KOPs at 18 surrounding residential structures and four roadways adjacent the site (see **Figure 4.1-4** through **Figure 4.1-12**). As shown in **Table 4.1-2**, each of the KOP areas were found to have zero annual minutes of yellow or green glare as a result of Project implementation (Power Engineers, Inc. 2018).

Furthermore, the Glare Study determined no glare will be visible at the KOPs evaluated from the proposed solar operations due to the orientation of the PV panels and their rotational limits. The 60 degree rotational limits cause any resulting glare to be redirected above and away from all sensitive viewers throughout the day and year. Also, the amount of light reflected upwards would not be expected to potentially affect air traffic in the area (Power Engineers, Inc. 2018). As such, the PV solar modules from the individual CUPs, or the Full Build-out Scenario, would not create a significant source of glare during sunlight hours. Further, the Project would not use other reflective materials such as fiberglass, vinyl/plastic siding, brightly painted steel roofs, or reflective forms of aluminum and galvanized products that have the potential to create on- and off-site glare. Therefore, buildout under the Full Build-out Scenario or the Phased CUP Scenario is not anticipated to create a new source of glare that would adversely affect day or nighttime views in the area. Thus, impacts associated with a substantial increase in operational glare are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Decommissioning/Reclamation

Light and Glare

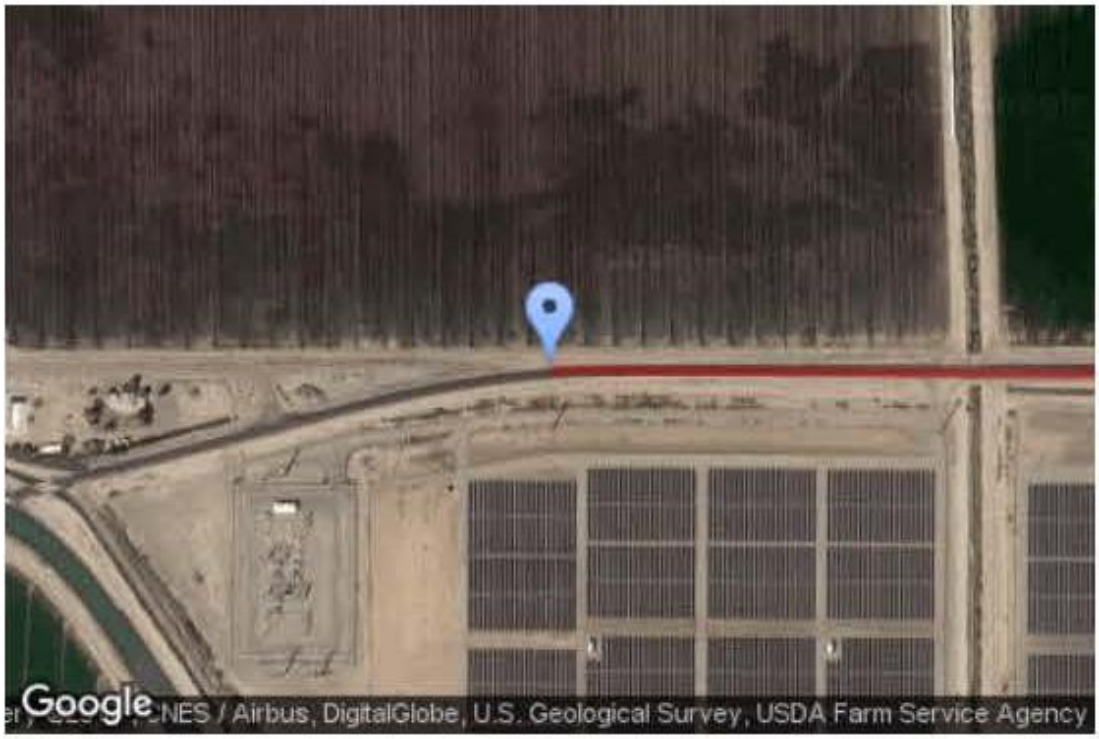
Short-term sources of lighting would be introduced to the Project Area during decommissioning as part of site security, materials storage and staging areas. Lighting at construction and staging areas throughout the Project Area would be designed and installed such that light bulbs and reflectors would be angled downward to limit light spillage on to adjacent lands and minimize nighttime glare. Thus, impacts associated with a substantial increase in new sources of light and glare are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario during Project decommissioning. Moreover, no light or glare would be present following reclamation.

Mitigation Measures

None required.

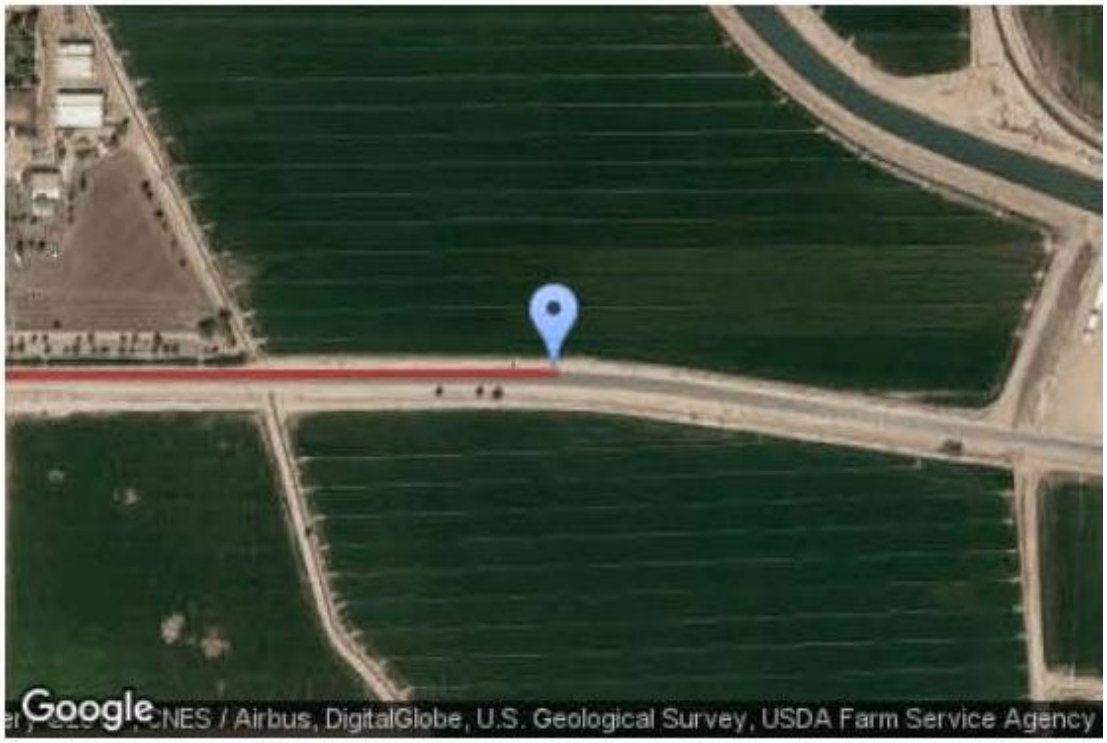
Significance After Mitigation

Not applicable.



Source: Power Engineers 2018.

FIGURE 4.1-4
SR 98 EAST-BOUND SENSITIVE VISUAL RECEPTOR

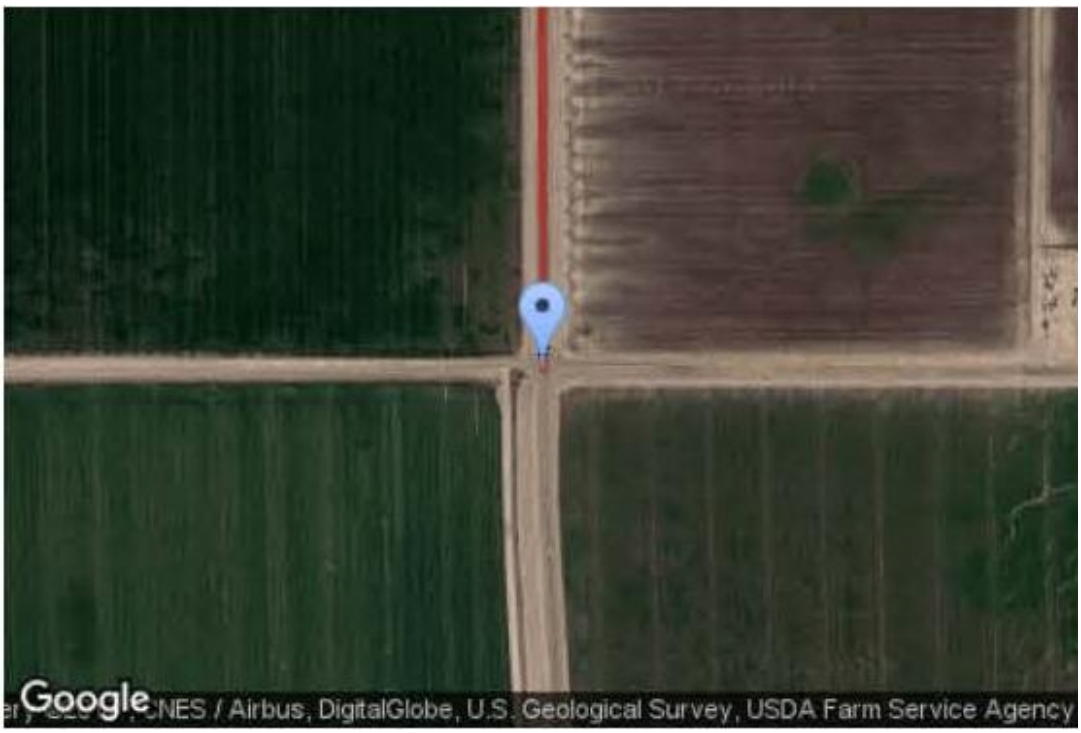


Source: Power Engineers 2018.

FIGURE 4.1-5
SR 98 EAST-BOUND LEFT SENSITIVE VISUAL RECEPTOR

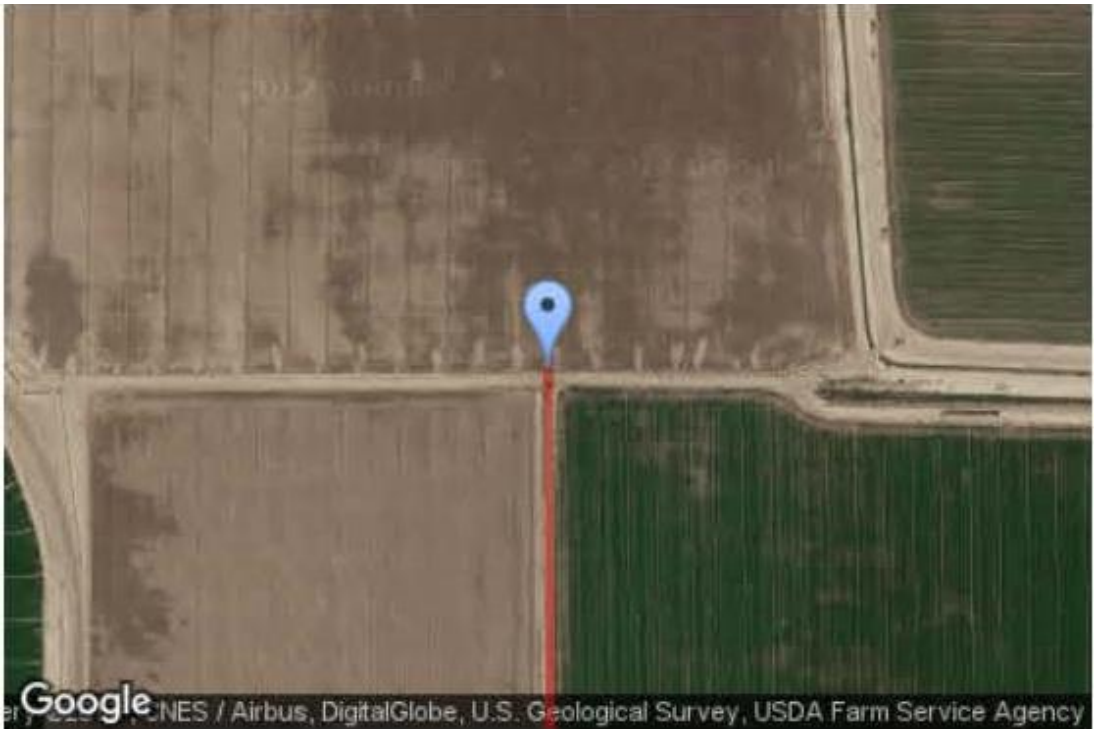
Source: Power Engineers 2018.

FIGURE 4.1-6
SR 98 WEST-BOUND SENSITIVE VISUAL RECEPTOR



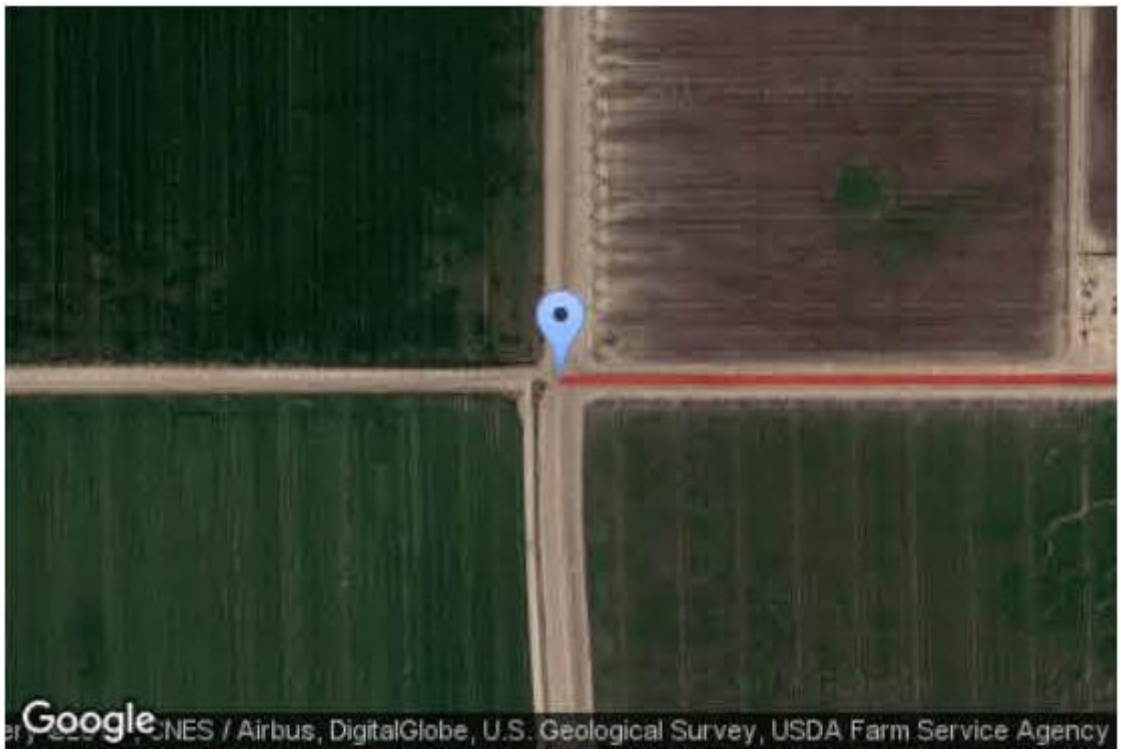
Source: Power Engineers 2018.

FIGURE 4.1-7
DREW ROAD NORTH-BOUND SENSITIVE VISUAL RECEPTOR



Source: Power Engineers 2018.

FIGURE 4.1-8
DREW ROAD SOUTH BOUND SENSITIVE VISUAL RECEPTOR

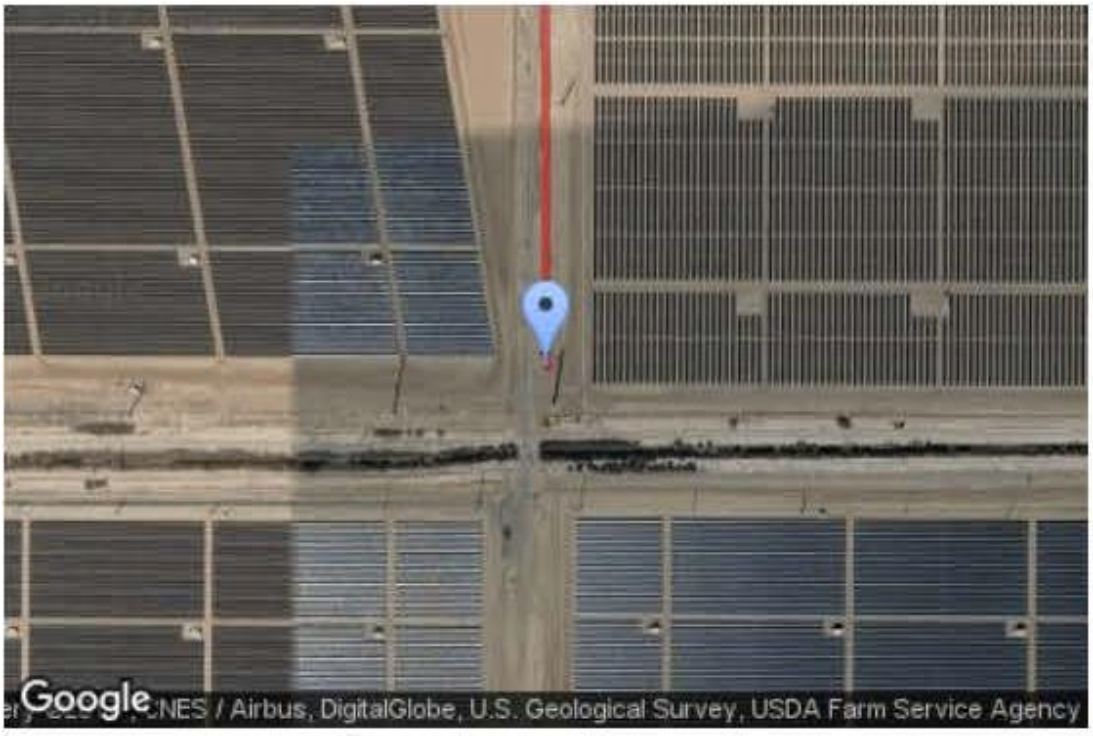


Source: Power Engineers 2018.

FIGURE 4.1-9
KUBLER ROAD EAST-BOUND SENSITIVE VISUAL RECEPTOR

Source: Power Engineers 2018.

FIGURE 4.1-10
KUBLER ROAD WEST-BOUND SENSITIVE VISUAL RECEPTOR



Source: Power Engineers 2018.

FIGURE 4.1-11
PULLIAM ROAD NORTH BOUND SENSITIVE VISUAL RECEPTOR

Source: Power Engineers 2018.

FIGURE 4.1-12
PULLIAM ROAD SOUTH BOUND SENSITIVE VISUAL RECEPTOR

4.1.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for aesthetics, light, and glare includes the unincorporated areas of Imperial County surrounding the Project Site. In a larger context, the cumulative setting also includes proposed, approved and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. The focus of this cumulative analysis is on the project's contribution to cumulative visual resources impacts.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Visual and Light and Glare Impacts

Impact 4.1.4 Implementation of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the vicinity of the Project Site would not significantly alter the overall character of the Project Area which is currently characterized by agricultural fields and solar generation facilities. Very few residential homes are in the area nor are there any scenic resources within the Project viewshed. Potential visual impacts by other cumulative projects would be subject to review and approval by the County on a project-by-project basis. Therefore, the Project's contribution to cumulative aesthetics, light and glare impacts is considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Scenic Vistas and Visual Character

The proposed Project Area is surrounded by mostly agricultural land with no scenic vistas or outstanding aesthetic features. The proposed Project may be developed in up to five phases under the Phased Buildout Scenario over several months per phase, or at one time over 18 months under the Full Build-out Scenario. Either method would result in short-term changes to the visual character of the solar field site parcels associated with the presence of equipment, site clearance, and solar facility installation. Similarly, construction of any other cumulative projects in the vicinity would be limited in duration and impact to scenic vistas and the overall visual character of the area. Therefore, the proposed Project's construction activities would result in a **less than cumulatively considerable** contribution to cumulative visual character impacts under the Full Build-out Scenario or Phased CUP Scenario. Likewise, because aesthetic impacts are considered on a project-by-project basis, cumulative impacts to scenic vistas and visual character considered **less than cumulatively considerable** during construction for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Light and Glare

As described under Impact 4.1.3, short-term sources of lighting would be introduced to the Project Area during construction in association with site security, materials storage and staging areas. However, in compliance with the County's lighting ordinance, lighting throughout the Project Area would be designed and installed such that light bulbs and reflectors would not be visible from public viewing areas, and would not cause reflected glare. Impacts associated with light and glare are mitigated on a project-by-project basis. Therefore, the Project's contribution to impacts associated with new sources of light and glare are considered **less than cumulatively considerable** during Project construction under both the Full-Build-out Scenario and the Phased CUP Scenario during construction. Likewise, because light and glare impacts are considered on a project-by-project basis, cumulative impacts resulting from light and glare considered **less than cumulatively considerable** during construction for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Operation

Scenic Vistas and Visual Character

In addition to the proposed Project, several other solar projects are either under construction or are proposed to be built in the general vicinity of the Project Site. These projects include Centinela Solar Energy, Acorn Solar, Imperial Solar Energy Center South, Calexico Solar, Iris Solar Farm and the Mount Signal Solar Farm (refer to Figure 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used). Operation of the proposed Project, in conjunction with these existing, approved, proposed, and reasonably foreseeable Projects, would contribute to changes to the character of the cumulative visual setting from agricultural land to solar energy facilities. However, each proposed, approved and reasonably foreseeable project is designed in grids of rows of solar panels that complement the row-like patterns of agricultural field crops in the area. Additionally, the County of Imperial allows for development of parcels zoned for agriculture with issuance of a Conditional Use Permit, giving the County the authority to impose mitigation measures to reduce potentially significant impacts from any project on a project-by-project basis. Furthermore, each project is required to comply with setback requirements applicable to the agricultural zone. The projects in the vicinity have all been located in an area with extremely low density so very few viewers (motorists, residents) are impacted. Moreover, neither the combined effect of the existing and reasonably foreseeable projects nor the incremental effect of the proposed Project would result in the loss of scenic views, cause damage to a scenic resource, or

compromise the aesthetic of an otherwise outstanding landscape or feature of high aesthetic value. As views of Mount Signal and distant views of mountains would not be obstructed by any feature of the Project, the contribution of the proposed Project to changes in the visual character of the area during operation would be **less than cumulatively considerable** under both the Full Build-out Scenario and Phased CUP Scenario. Likewise, because aesthetic impacts are considered on a project-by-project basis, cumulative impacts to scenic vistas and visual character considered **less than cumulatively considerable** during operation

Light and Glare

Light and glare impacts are typically addressed through the use of non-reflective building materials, installing light fixtures that point downward or shielding light sources. The Project's proposed lighting system would provide operation and maintenance personnel with illumination in both normal and emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and will be shielded and oriented to focus illumination on the desired areas, minimizing light spillover. All projects are required to comply with the County's lighting ordinance to avoid excessive illumination and light spillage on adjacent properties. The portion of the County where the Project is proposed is largely undeveloped and unlit. Lighting proposed for the Project and other cumulative projects will be pointed downward and shielded to focus illumination only on the desired areas in accordance with the County's lighting ordinance. Therefore, the Project's incremental contribution to impacts associated with new sources of light would be **less than cumulatively considerable** during Project operation under the Full-Build-out Scenario and the Phased CUP Scenario.

As discussed above, PV panels would cover the majority of the solar field site parcels. PV panels are non-reflective and none of the materials proposed are anticipated to generate glare. Moreover, the Glare Study prepared for the Project determined no glare will be visible at the KOPs evaluated as a result of Project implementation due to the orientation of the PV panels and their rotational limits (Power Engineers 2018). Therefore, the Project's incremental contribution to impacts associated with new sources glare would be **less than cumulatively considerable** during Project operation under the Full-Build-out Scenario and the Phased CUP Scenario during operation.

The proposed, approved and reasonably foreseeable projects in the region identified in Table 3.0-1 would be required to undergo glare analysis and incorporate anti-reflective, non-glare building materials or design features as appropriate to mitigate glare impacts on a project-by-project basis.

Decommissioning/Reclamation

Scenic Vistas and Visual Character

The Project proposes decommissioning of the Project Site by CUP area as each CUP expires. Under the worst case Full-Buildout Scenario, decommissioning of all CUP areas would occur at one time, thereby increasing the intensity of activity at the Project Site over a shorter period of time. Either method would result in short-term changes to the visual character of the Project area associated with the presence of equipment and decommissioning activities. As with construction, the Project's contribution to changes to the area's visual character during decommissioning would be **less than cumulatively considerable** based on the limited duration of these activities under both the Full Build-out Scenario and Phased CUP Scenario. Likewise, because aesthetic impacts are considered on a project-by-project basis, cumulative impacts to scenic vistas and visual character are considered **less than cumulatively considerable** during decommissioning and completely eliminated following reclamation for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Light and Glare

As with construction, short-term sources of lighting would be present in the Project area during decommissioning activities in association with site security, materials storage and staging areas. However, in compliance with the County's lighting ordinance, lighting throughout the Project Area would be designed and installed such that light bulbs and reflectors would not be visible from public viewing areas, and would not cause reflected glare. Impacts associated with light and glare are mitigated on a project-by-project basis. Impacts associated with light and glare are mitigated on a project-by-project basis. Therefore, the Project's contribution to impacts associated with new sources of light and glare are considered **less than cumulatively considerable** during Project construction under both the Full-Build-out Scenario and the Phased CUP Scenario. Likewise, because light and glare impacts are considered on a project-by-project basis, cumulative impacts resulting from light and glare considered **less than cumulatively considerable** during decommissioning and would be eliminated entirely following reclamation for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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SECTION 4.2

LAND USE

This section describes the land use plans, policies, and regulations that apply to the proposed Project. The Solar Field Site Parcels and two Gen-Tie lines are located in Imperial County on privately held lands. Applicable local land use plans and regulations include the County's General Plan and Land Use Ordinance, and Airport Land Use Compatibility Plan (ALUCP).

4.2.1 REGULATORY FRAMEWORK

A. FEDERAL

Federal Aviation Regulations Title 14 Part 77

The FAA regulates aviation at regional, public, private, and military airports. The Federal Aviation Administration (FAA) requires notification regarding structures to be constructed in excess of 200 feet in all areas (and, potentially, of structures less than 200 feet, depending on proximity of the proposed structure to public use airports). The U.S. Department of Transportation (DOT) and California Department of Transportation (Caltrans) also require the Applicant submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace (49 CFR Part 77.17). Any structure subject to the notification requirement that would also constitute a hazard to air navigation, as defined in FAA Part 77, requires issuance of a permit from the Caltrans Aeronautics Program. If the FAA aeronautical study determines that the structure has no impact on air navigation, a permit is not required (FAA 2010).

Part 77, Subpart C, of the Federal Aviation Regulations limits the heights of structures, trees, and other objects in the vicinity of an airport within Compatibility Zones C and D of an ALUCP to less than 35 feet above ground level. Proponents of a project which may exceed a Part 77 limit must notify the Federal Aviation Administration (FAA 2010).

Currently, there are no such locations near the existing airports in Imperial County. The proposed Project area is not within one-half mile of an airport runway or approach protective zone and is located outside of all airport zones. Compliance with this regulation is not discussed further in this Section of the EIR. Local

Imperial County General Plan

The purpose of the Imperial County General Plan is to guide growth throughout the County. Urban development is directed to areas where public infrastructure can be readily extended to areas with limited health and safety hazards. Likewise, development should avoid natural, cultural, and economic resources.

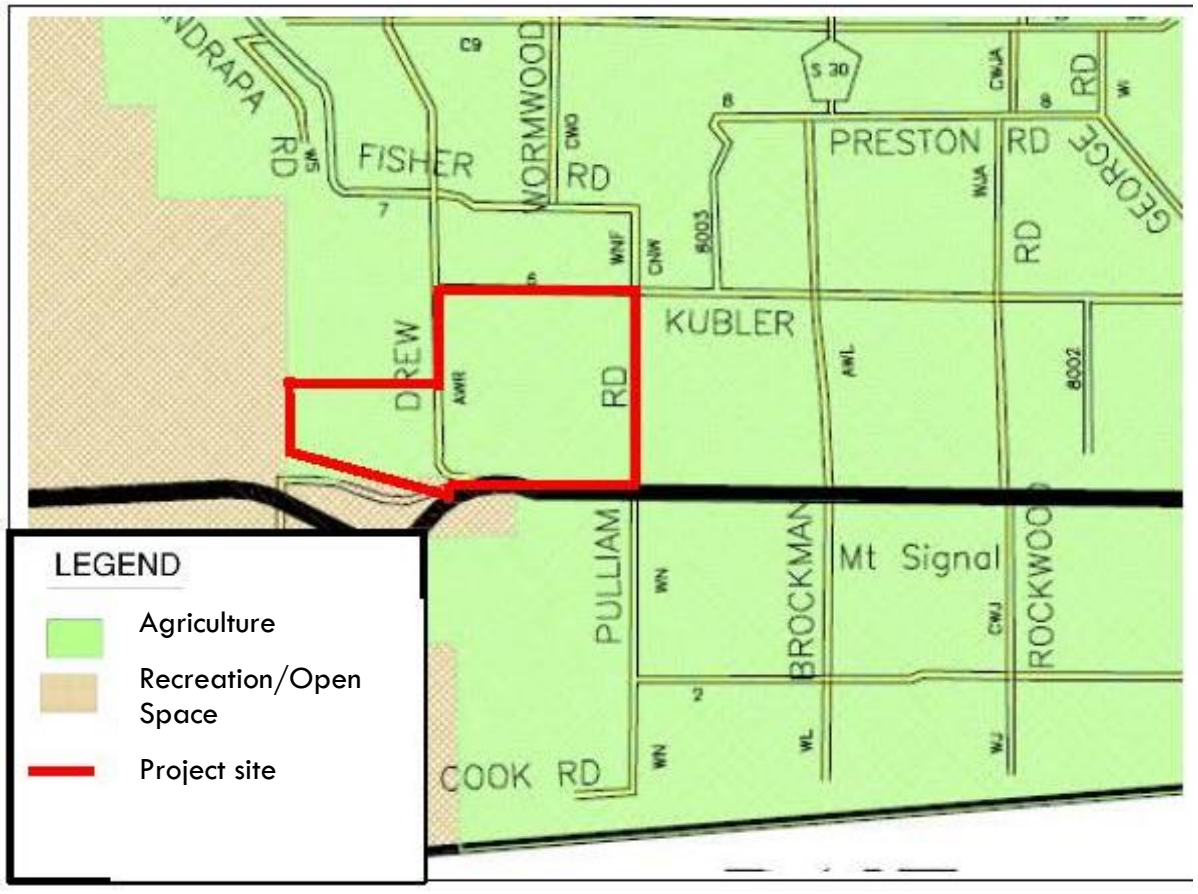
The General Plan includes ten elements: Land Use; Housing; Circulation and Scenic Highways; Noise; Seismic and Public Safety; Conservation and Open Space; Agricultural; Renewable Energy and Transmission; Water; Parks and Recreation. These elements satisfy the California Government Code requirements for general plan elements. Each element includes goals, objectives, and implementing policies and programs. As shown in **Figure 4.2-1**, the General Plan land use designation "Agriculture" applies to the entirety of the Project site and surrounding area. The Land Use Element of the Imperial County General Plan defines the "Agriculture" designation as follows:

> *This category is intended to preserve lands for agricultural production and related industries including aquaculture (fish farms), ranging from light to heavy agriculture. Packing and processing of agricultural products may also be allowed in certain areas, and other uses necessary or supportive of agriculture. The Agriculture category includes most of the central irrigated area known as the Imperial Valley, the Bard/Winterhaven Valley and the south end of the Palo Verde Valley.*

Where this designation is applied, agriculture shall be promoted as the principal and dominant use to which all other uses shall be subordinate. Where questions of land use compatibility arise, the burden of proof shall be on the nonagricultural use to clearly demonstrate that an existing or proposed use does not conflict with agricultural operations and will not result in the premature elimination of such agricultural operations. No use should be permitted that would have a significant adverse effect on agricultural production, including food and fiber production, horticulture, floriculture, or animal husbandry.

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.

No land shall be removed from the Agriculture category except for annexation to a city, where needed for use by a public agency, for renewable energy purposes in accordance with the Renewable Energy and Transmission Element, 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 (Imperial County 2015d, p. 48).



Source: Imperial County 2007.

FIGURE 4.2-1
IMPERIAL COUNTY LAND USE PLAN MAP

The Imperial County General Plan balances agriculture and alternative energy uses. In 2006, the County adopted the General Plan's Geothermal/Alternative Energy and Transmission Element. This Element was updated and renamed the "Renewable Energy and Transmission Element" 2015 (County of Imperial 2015b) and serves as the primary policy statement by the Board of Supervisors for implementing development policies for alternative energy land uses in Imperial County, regardless of the land use category designated in the General Plan. Section I(C) explains that the County adopted the Renewable Energy and Transmission 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;
5. Improvements in technology to reduce costs of electrical generation;
6. Potential air quality improvement by displacement of fossil-fueled generated electricity with geothermal/alternative energy power which does not add to the Greenhouse effect;
7. Contributes toward meeting the State of California's Renewables Portfolio Standard (RPS)"; and
8. Minimization of impacts to local communities, agriculture and sensitive environmental resources.

The Project proposes a temporary conversion of agriculturally-designated land from agricultural use to an industrial solar generation and energy storage use pursuant to the terms of the CUPs and Development Agreement. The proposed Project will require approval of a General Plan Amendment (GPA#17-0006) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project site. However, the Project site will retain its current agricultural zoning. Furthermore, the Project shares a common boundary to an existing transmission source (i.e. the existing Drew Switchyard) and is adjacent to the existing Centinela Solar Farm.

Table 4.2-1 analyzes the consistency of the proposed Project with the applicable goals, policies and objectives relating to land use from the Imperial County General Plan. While this EIR analyzes the Project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d) and can be used as substantial evidence to support a finding of consistency required under laws other than CEQA, the Imperial County Board of Supervisors ultimately determines whether the Project is consistent with the overall intent of the General Plan.

Public benefits associated with renewable energy as they pertain to Renewable Energy and Transmission Element were previously discussed in Chapter 2.0, Land Use. Please refer to Table 2.0-2 "Energy Storage and the Public Benefits Associated with Renewable Energy and Transmission" and the discussion that follow on pages 2.0-22 thru 2.0-23.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
LAND USE ELEMENT		
Commercial Agriculture		
Goal 1: Preserve commercial agriculture as a prime economic force.	Yes	The proposed Project would temporarily convert 762.8 net acres of the Project site (exclusive of roads and canals) to five solar energy generating systems and energy storage for the operational life of the Project. At the end of the Project, the Project's CUPs and development agreement require the Applicant to restore the site back to pre-Project conditions. In addition, the Project will prepare a Reclamation Plan describing how the site will be reclaimed to pre-Project conditions. The Project's agricultural reclamation feature (decommissioning) has been incorporated into mitigation measure MM 4.9.1b to facilitate the County's monitoring and tracking of the Project's requirements and to assure the County and the public that the Reclamation Plan meets an acceptable performance standard. Additionally, the Project Development Agreement provides for Agricultural Benefit payments to be paid to the County to be used to enhance and preserve agricultural productivity within the County. For the above reasons, the proposed Project is consistent with the overall intent of this this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Economic Growth		
Goal 2: Diversify employment and economic opportunities in the County while preserving agricultural activity.	Yes	The proposed Project would diversify employment and economic opportunities in the County through the creation of short-term construction jobs as well as long-term operation and maintenance jobs. The proposed Project, as a solar energy generating system, is among the non-agricultural uses identified in this General Plan for diversification of the County's economic base. The Renewable Energy and Transmission Element enumerates the varied benefits of alternative energy including fiscal, social, technological and environmental benefits. In view of these benefits, the County amended the General Plan to ensure that such projects would be allowed in the County. The Project is processing a Development Agreement with Imperial County to enable and control a Phased CUP of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Thereafter, the CUPs are valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved. The Development Agreement provides for Community Benefit payments to be paid to the County. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Regional Vision		
Goal 3: Achieve balanced economic and residential growth while preserving the unique natural, scenic, and agricultural resources of Imperial County.	Yes	Refer to discussion under Land Use Element Goal 2, Land Use Element Objective 9.6 (page 4.2-8), Chapter 4.1, Aesthetics, and Chapter 4.9, Agricultural Resources. The proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Public Facilities		
Goal 8: Coordinate local land use planning activities among all local jurisdictions and state and federal agencies.	Yes	The proposed Project includes development of up to five CUP Areas for solar energy generating systems, one CUP for energy storage, and two associated Gen-Tie lines on land owned by the IID within the jurisdiction of the County of Imperial. The Project would be required to coordinate with the following agencies, including, but not limited to the Imperial County Planning and Development Services Department (ICPDSD), Imperial County Public Works Department (ICDPW), IID, Caltrans District 11, and Regional Water Quality Control Board 7 (RWQCB-7). These are Responsible Agencies and Trustee Agencies under CEQA and therefore outreach and coordination with these agencies has already been initiated through this EIR's scoping process, which solicited comments regarding the proposed Project. Refer also to Section 2.3.2 and 2.3.3 of the Project Description. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Yes	The Imperial County Land Use Ordinance conditionally allows for "major facilities relating to the generation and transmission of electrical energy" on agriculturally-zoned lands with a CUP (Imperial County 2017). The Applicant has requested from the County five CUPs to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3; and one CUP to develop energy storage as a component of solar on lands currently zoned A-2 and A-3. The Applicant has also requested a General Plan Amendment (GPA#17-0006) amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site; a Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project site; a Variance to allow for power pole structures that are over 120 feet in height; a Parcel Map (PM#02478) to correct an existing inconsistency with the legal

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.		and physical boundary of the SW ¼ Section of the Project site; six CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035, CUP#18-0001); one Variance (V#17-0008); and up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines; and a Development Agreement. These requests were submitted for the County's review and consideration to ensure the Project is sited and developed in a manner compatible with County regulations. In order to minimize impacts to the environment, the Project proposes to utilize the existing Drew Switchyard as its point of interconnection from the solar energy generating system into the State electricity grid. From the Drew Switchyard, Project-generated electricity would be conveyed to SDG&E's existing IV Substation via existing transmission infrastructure. As illustrated in **Figure 2.0-9**, the Project's Gen-Tie facilities are proposed to extend 400 feet south from the south end of the Project site across Drew Road and State Route 98 into the existing Drew Switchyard located on APN 052-190-039-000. Both Gen-Tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. In addition, Project buildings would be subject to mandatory compliance with State 2016 Title 24 Green Building Standards Code (CCR, Title 24, Part 11), which was developed to promote environmentally responsible development. The requests submitted by the Applicant are subject to approval by the County Board of

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
		Supervisors. If approved, the proposed Project would be consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 8.9 Require necessary public utility rights-of-way when appropriate.	Yes	The proposed Project will require activities in utility rights-of-way (ROW) associated with IID water and energy infrastructure; IID, private, or County vehicular crossings; and the Caltrans SR 98 ROW. The Applicant is already required by law and through CUP conditions to obtain applicable permits and approvals prior to initiation of any activities within these ROWs. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Protection of Environmental Resources		
Goal 9: Identify and preserve significant natural, cultural, and community character resources and the County's air and water quality.	Yes	The proposed Solar Field Site Parcels are not identified as being in an area with significant natural, cultural or community character in the General Plan. Refer to discussion under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7) and 9.6 (page 4.2-8), as well as Open Space and Conservation Element Objectives 1.1 and 1.4. The proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Objective 9.6 Incorporate the strategies of the Imperial County Air Quality Attainment Plan (AQAP) in land use planning.	Yes	An Air Quality and Greenhouse Gas Analysis was prepared for the proposed Project (RECON 2018a). The analysis identified potential emissions of Project-generated criteria pollutants primarily during construction. Once operational, the proposed Project would be required to implement standard, discretionary, and Project-specific mitigation measures in order to comply with all County air quality-related plans and regulations. Project air quality compliance is further discussed in Section 4.4, Air Quality, of this EIR. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
CONSERVATION AND OPEN SPACE ELEMENT		
Conservation of Environmental Resources for Future Generations		
Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Yes	As a solar generating energy system, the proposed Project would protect environmental resources through the production of approximately 100 MW of renewable energy that would otherwise be generated by non-renewable fossil fuels. Further, the Project is located on active agricultural land, and would be required to reclaim the acreage to pre-Project conditions at the end of each CUP or 40 years whichever is later. The DEIR recommends mitigation measures to reduce and avoid the Project's impacts, which are incorporated here by reference. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Objective 1.1: Encourage uses and activities that are compatible with the fragile desert environment and foster conservation.	Yes	The Project is proposed to be developed on the disturbed soils of agricultural lands in order to avoid impacts to fragile desert habitats, aquatic, and marshland environment. Therefore, the proposed Project is consistent with this objective. Project-specific biological and drainage reports were prepared for the project (Dudek 2018; Fuscoe 2018a). These studies identify potential impacts to the Imperial Irrigation District (IID) drain system, Greeson Wash and New River as a result of receiving Project runoff. The Project's configuration would be consistent with applicable regulations, and Project-specific mitigation measures designed to protect biological resources and water quality. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario. These issues are further addressed in Section 4.12, Biological Resources, and Section 4.11, Hydrology and Water Quality.
Objective 1.4: Ensure the conservation and management of the County's natural and cultural resources.	Yes	The Project site is disturbed agricultural land and was selected in part to avoid impacts to sensitive natural and cultural resource located on desert land within the County. Additionally, a Project-specific Cultural Resources Inventory Report was prepared for the Project (Dudek 2018a). This study identified potential impacts to cultural resources as a result of Project implementation. Mitigation measures designed to protect cultural resources were identified. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario. Refer to analysis under Conservation and Open Space Element Objective 1.1 and Chapter 4.7, Cultural Resources.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Conservation of Biological Resources		
Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.	Yes	Refer to analysis under Conservation and Open Space Element Objective 1.1 and Chapter 4.12, Biological Resources. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Preservation of Cultural Resources		
Goal 3: Preserve the spiritual and cultural heritage of the diverse communities of Imperial County.	Yes	Please refer to the discussion of Objective 1.4, above, please also refer to the analysis under Conservation and Open Space Element Objective 1.4 and Chapter 4.7, Cultural & Paleontological Resources. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Conservation of Visual Resources		
Goal 5: The aesthetic character of the region shall be protected and enhanced to provide a pleasing environment for residential, commercial, recreational, and tourist activity.	Yes	Refer to Chapter 4.1, Aesthetics. The proposed Project is consistent with this goal.
Conservation of Water Resources		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Yes	Refer to analysis under Conservation and Open Space Element Objective 1.1 and Chapter 4.11, Hydrology and Water Quality. The proposed Project is consistent with this goal.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Protection of Air Quality and Addressing Climate Change		
Goal 7: The County shall actively seek to improve the quality of air in the region.	Yes	Refer to analysis under Land Use Element Objective 9.6 (page 4.2-8) and to Chapter 4.4. Air Quality. The proposed Project is consistent with this goal.
Protection of Open Space and Recreational Opportunities		
Goal 8: Open space shall be maintained to protect the aesthetic character of the region, protect natural resources, provide recreational opportunities, and minimize hazards to human activity.	Yes	The Project does not propose changes to land designated for open space or recreational uses. Refer to Chapter 4.1, Aesthetics, and Chapter 4.10, Hazards and Hazardous Materials. The proposed Project is consistent with this goal.
Objective 8.2: Focus all new renewable energy development within adopted Renewable Energy Overlay Zones.	Yes	With the proposed General Plan Amendment, and zone change, the Project will be consistent with this goal for both the Full Build-out Scenario and Phased CUP Scenario. This Project is surrounded on two sides by the existing Centinela Solar Project and is adjacent to the existing Drew Switchyard, which a majority of the projects in the area interconnect to. The Project plans to connect to San Diego Gas & Electric's (SDG&E) Imperial Valley Substation by way of the existing Drew Switchyard. There are several other approved/built solar projects in the immediate vicinity surrounding the Project site. The other projects include the Centinela Solar Project (adjacent to the proposed Project on two sides), the Mount Signal and Calexico Solar Projects, Campo Verde Solar, Wistaria Ranch Solar Energy Center, and the Imperial Solar Energy Center South, the DEIR recommends mitigation measures to reduce and avoid the Project's potentially significant impacts. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario. Refer also to the analysis under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7).

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
RENEWABLE ENERGY AND TRANSMISSION ELEMENT		
Safe and Orderly Development of Renewable Energy		
Goal 1: Support the safe and orderly development of renewable energy while providing for the protection of environmental resources.	Yes	The Project proposal includes a General Plan Amendment to create an Island Overlay for the Project site in accordance with the Renewable Energy & Transmission Element of the General Plan, a Zone Change application, a Variance application, A Development Agreement, Lot Tie Agreements, a Parcel Map, and six Conditional Use Permit applications authorizing the Project activities. The DEIR recommends mitigation measures to reduce and avoid the Project's potentially significant impacts, which are incorporated here by reference. Project construction, operations, and decommissioning will comply with all applicable local, state and federal laws and regulations. The County has chosen to concentrate solar development in the Project vicinity. The Project area is currently disturbed agricultural land that will be temporarily converted to a solar energy generating system, then reclaimed to pre-Project conditions at the end of the operational life of the Project. If allowed, the Project also proposes co-locating one of the Gen-Tie lines with the existing Centinela Solar Gen-Tie facilities. Compliance with the County's land use planning documents and ordinances, shared use and co-location of one of the Gen-Tie lines would support orderly development while preserving undisturbed lands. The proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario. Refer also to analysis under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7).

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Objective 1.2: Lessen impacts of site and design production facilities on agricultural, natural, and cultural resources.	Yes	Refer to discussion under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7) and 9.6 (page 4.2-8), as well as Open Space and Conservation Element Objectives 1.1 and 1.4. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 1.4: Analyze potential impacts on agricultural, natural, and cultural resources, as appropriate.	Yes	Refer to discussion under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7) and 9.6 (page 4.2-8), as well as Open Space and Conservation Element Objectives 1.1 and 1.4. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 1.5: Require appropriate mitigation and monitoring for environmental issues associated with developing renewable energy facilities.	Yes	The proposed Project would be required to implement standard, discretionary, and Project-specific mitigation measures in order to comply with the MMRP, Conditions of Approval, and applicable State and Local regulations. Responsibility for monitoring of compliance with each measure will be identified within the MMRP and as otherwise may be stated in the Conditions of Approval. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Objective 1.6: Encourage the efficient use of water resources required in the operation of renewable energy generation facilities. Assure that development of renewable energy facilities and transmission lines comply with Imperial County Air Pollution Control District's regulations and mitigation measures.	Yes	During construction of the Project, water will be required for a variety of activities, including dust suppression, earth compaction, the creation of engineered fill, and concrete preparation. The total water use through full construction buildout, the longest potential operational lifespan of the Project (39 years), and decommissioning (one year) is expected to be 4,740 acre-feet (AF) (Fuscoe 2018b). During operation, approximately 60 acre-feet per year (AFY) of water will be required for operations and maintenance. The amount of water used would be substantially less than the amount currently used in association with agricultural activities. In addition, the water needed for both construction and operation would be efficiently used (i.e. watering to achieve 20 percent opacity; panel washing only as necessary). Refer also to analysis under Land Use Element Objective 9.6 (page 4.2-8) and Chapter 4.4, Air Quality. The proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 1.7: Assure that development of renewable energy facilities and transmission lines comply with Imperial County Air Pollution Control District's regulations and mitigation measures.	Yes	Refer to analysis under Land Use Element Objective 9.6 (page 4.2-8) and to Chapter 4.4, Air Quality. The proposed Project is consistent with this objective.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Transmission Line Routes		
Goal 2 – Encourage development of electrical transmission lines along routes which minimize potential environmental effects.	Yes	The Project proposes co-location of one of the two proposed Gen-Tie line with the existing Centinela Solar Gen-Tie line infrastructure, connecting all the Solar Field Site Parcels and the Energy Storage Component to the existing Drew Switchyard located directly south across SR 98. This co-location would allow the Project to maximize use of existing utility ROW. Further, by connecting to the California Electrical Grid through the existing Drew Switchyard, no new transmission lines or other infrastructure would be required to transport Project-generated energy to SDG&E's IV Substation. Refer also to analysis under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7). The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 2.1: To the extent practicable, maximize utilization of IID's transmission capacity in existing easements or rights-of-way. Encourage the location of all major transmission lines within designated corridors, easements, and rights-of-way.	Yes	Refer to analysis under Renewable Energy and Transmission Element Goals 1 and 2. In addition, the Project would require new easements and/or shared use agreements with IID, the State (Caltrans) and other entities to be refined upon development of the final site plan. Upon approval of these requests and agreements, the Project would be consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 2.2: Where practicable and cost-effective, design transmission lines to minimize impacts on agricultural, natural, and cultural resources, urban areas, military operation areas, and recreational activities.	Yes	Refer to discussion under Land Use Element Objective 8.8 (page 4.2-6 and 4.2-7) and Open Space Element Objectives 1.1 (page 4.2-8 and 4.2-9) and 1.4 (page 4.2-9). The proposed Project is consistent with this objective.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Economic Vitality		
Goal 3: Support development of renewable energy resources that will contribute to and enhance the economic vitality of Imperial County.	Yes	The proposed Project is consistent with this goal. Refer to Chapter 2.0, Table 2.0-2 for economic vitality benefits to Imperial County as identified by the Applicant.
Objective 3.5: Encourage employment of County residents by the renewable energy industries wherever and whenever possible.	Yes	The Project would generate construction jobs. The number of workers on the Project site is expected to vary over the construction period. However, the number of construction workers onsite is expected to average up to 250 workers daily. Approximately two to six full-time workers will be employed to operate the Project. These personnel will perform maintenance and security functions. Both construction and operational jobs are typically filled by local workers. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 3.7: Evaluate environmental justice issues associated with job creation and displacement when considering the approval of renewable energy projects.	Yes	The proposed Project is not anticipated to result in adverse impacts related to environmental justice. The Project site is located in an area surrounded by similar uses, and no housing would be displaced. The Fiscal Impact Analysis prepared for the Drew Solar Project determined the Project will generate the equivalent of 190 full-time one-year equivalent construction jobs over the first year and 4 full-time equivalent permanent jobs. By comparison the current use of the site (hay/grass type crops) produces approximately 5.5 jobs. When comparing both the direct and indirect permanent employment of agriculture versus utility (energy) production, the proposed solar use will generate a total of 14.36 permanent jobs while the current use creates 9.79 permanent jobs (DMG 2019). Therefore, the proposed Project would have a positive effect on job creation consistent with this objective for both the Full Build-out Scenario and Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Innovative Renewable Energy Technologies		
Goal 5: Encourage development of innovative renewable energy technologies that will diversify Imperial County's energy portfolio.	Yes	The Project is a proposal to build an approximately 100 MW alternating current (AC) solar generation facility using photovoltaic (PV) technology. The actual net electrical output of the Project will depend upon the technology selected and final design and layout. The Project may include only one PV technology or a combination of various PV technologies, including but not limited to crystalline silicon-based systems, bifacial modules, thin-film systems and perovskites as innovations evolve during the final Project design and construction window for each CUP Area. The project may also include a variety of energy storage technologies. Similarly, a specific design for the O&M Building Complex has not yet been selected as the technology utilized in utility scale solar energy production continues to improve dramatically at a rapid pace. The final layout will be based on the technology selected. Therefore, the Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 5.2: Encourage development of utility-scale distributed generation projects in the County.	Yes	The Project consists of a solar energy generation and facility to generate approximately 100 MW of renewable energy into the California Electricity Grid (CAISO). The Project would also allow for storage of energy generated by the Project as well as from the CAISO grid for use as needed during hours of peak energy use or in the case of outages related to other energy sources. This would increase the stability of energy supply throughout the County (IID system) as well as the regional SDG&E energy supply. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Land Subsidence		
Goal 7: Actively minimize the potential for land subsidence to occur as a result of renewable energy operations.	Yes	A Preliminary Geotechnical and GeoHazards Report was prepared for the proposed Project (Landmark 2018). Refer to Chapter 4.6, Geology and Soils. The Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 7.1: Require that all renewable energy facilities, where deemed appropriate, include design features that will prevent subsidence and other surface conditions from impacting existing land uses.	Yes	Refer to analysis under Renewable Energy and Transmission Element Goal 7, and Chapter 4.6, Geology and Soils. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 7.3: Require renewable energy facility permittees to establish and monitor subsidence detection networks in areas affected by permitted project activities.	Yes	Refer to analysis under Renewable Energy and Transmission Element Goal 7, and Chapter 4.6, Geology and Soils. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 7.4: Require monitoring programs for determining the possibility or extent of induced subsidence.	Yes	The proposed Project would be required to implement standard, discretionary, and Project-specific mitigation measures in order to comply with the MMRP, Conditions of Approval, and applicable State and Local regulations. Responsibility for monitoring of compliance with each measure will be identified within the MMRP and as otherwise may be stated in the Conditions of Approval. Refer also to analysis under Renewable Energy and Transmission Element Goal 7, and Chapter 4.6, Geology and Soils. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.2-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
Development Overlay Zones and Public Accessibility		
Objective 8.1: Allow for County review with appropriate development and performance standards for development of local resources within the overlay zones.	Yes	The Project proposes a General Plan Amendment to create an Island Overlay for the Project Site and a Zone Change to add the "RE Overlay Zone to the Project site. The Applicant submitted a request for a GPA, ZC, Parcel Map, six CUPs, Variance, up to five Lot-Tie Agreements, and Development Agreement to the County for review and consideration. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 8.3: Provide the public adequate opportunity to obtain information on the current status of renewable energy development and to provide input on matters related to the development of renewable energy resources.	Yes	As a part of the CEQA review process, a Notice of Preparation (NOP) of an EIR and Initial Study (IS) was published in the Imperial Valley Press and distributed to applicable agencies, departments, and other known interested parties. A minimum 30-day review period accompanies publication of the NOP. Agency and departmental staff and members of the public are also invited to ask questions and submit comments at a public scoping meeting held during the NOP comment period. Upon completion of the DEIR, applicable agencies and departments, along with other interested parties and members of the public are invited to review and comment on the EIR during a minimum 45-day public review period. Comments received during public review periods are incorporated into the DEIR and/or Final EIR as applicable. Members of the public have further opportunity for input prior to and during required public hearings before the Planning Commission and Board of Supervisors to consider approval of a project. Notifications and staff reports detailing the agenda for these public hearings are published at least 10 days prior to the date of the hearing to allow the public to review the documents and/or plan to attend. The proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

County of Imperial Land Use Ordinance, Title (9)

The County of Imperial Land Use Ordinance (Title 9) provides the physical land use planning criteria, development standards, and zoning regulations for development in the unincorporated areas of the County.

> *The purpose of the Land Use Ordinance is to protect the public health, safety and welfare, to provide for orderly development, classify, regulate and where applicable segregate land uses and building uses; to regulate the height and size of buildings; to regulate the area of yards and other open spaces and buildings; to regulate the density of population; and, to provide the economic and social advantages resulting from orderly planned land uses and resources.*

As depicted in **Figure 4.2-2**, lands on which the Drew Solar Project is proposed are currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural). (refer to Table 2.0-1 in Chapter 2.0, Project Description).

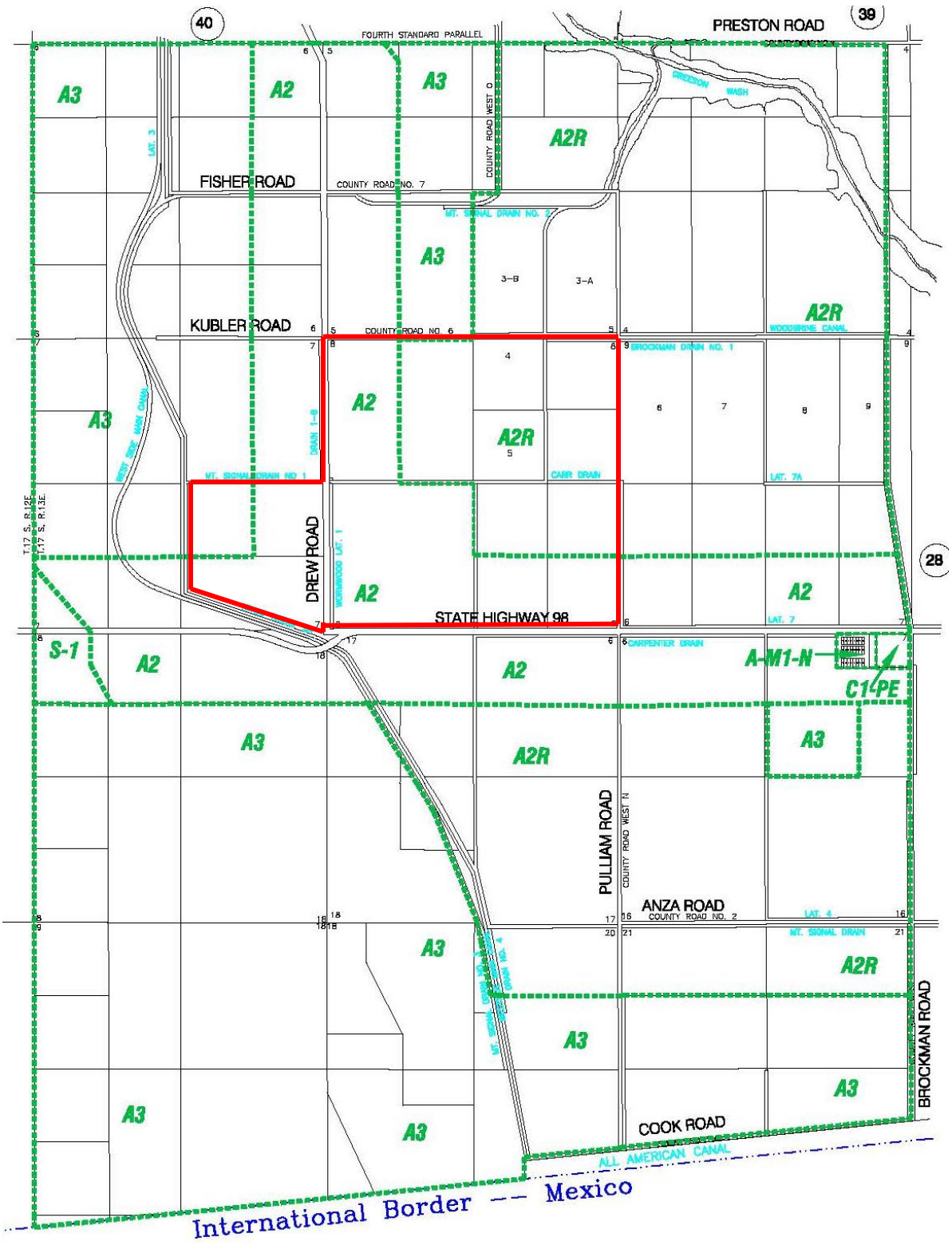
Solar Energy Generation Component

Per Title 9, Division 5, Sections 90508.02 and 90509.02 of the Land Use Ordinance, solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones. The proposed Solar Energy Generation Component would require approval of a General Plan Amendment (GPA#17-0006) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site. The Solar Energy Generation Component would also require a Zone Change (ZC#17-0007) to add the Renewable Energy (RE) Overlay Zone to the Project site; a Parcel Map to correct an existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site; six CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001) to develop solar energy generating and potentially also energy storage systems on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Section 90508.02 and 90509.02; and a Variance (V#17-0003) for power pole structures that are over 120 feet in height. With approval of the Variance, the proposed power pole structures could be up to 180 feet in height. The Project also requires up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another. Approval of the requested GPA, ZC, Parcel Map, six CUPs, a Variance, Lot Tie Agreements, and a Development Agreement are subject to approval by the County Board of Supervisors.

Energy Storage Component

The proposed Energy Storage Component would be subject to the same General Plan and Zoning Ordinance required approvals as the Solar Energy Generation Component: a General Plan Amendment (GPA#17-0006) to create an Island Overlay to include Project site; a Zone Change (ZC#17-0007) to add the Renewable Energy (RE) Overlay Zone to the Project site; a Parcel Map (PM#02478); six CUPs; a Variance (V#17-0003) for power pole structures to exceed 120 feet in height would also be applicable to the Energy Storage Component; and a Development Agreement.

Because energy storage infrastructure may be located in conjunction with each Solar Field Site Parcel as well as the Phase 5 parcels, the Energy Storage Component would require approval of the five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) for the Solar Energy Generation Component as well as one CUP (CUP#18-0001) to develop energy storage as a component of solar on lands currently zoned A-2 and A-3, per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 and A-3).



Source: Imperial County 1998b.

Project Site

FIGURE 4.2-2
IMPERIAL COUNTY ZONING MAP 27 – MOUNT SIGNAL AREA

Approval of the requested GPA, ZC, Parcel Map, six CUPs, a Variance, Lot Tie Agreements, and a Development Agreement are subject to approval by the County Board of Supervisors.

Drew Switchyard and Gen-Tie Component

As described in Chapter 2, Section C, the Project proposes improvements for a new bay at the existing Drew Switchyard, and connection to the Drew Switchyard via two approximately 400-foot long Gen-Tie lines from the south end of the Project site across Drew Road and SR 98 into the existing Drew Switchyard. A new pole may be constructed on the existing Centinela Solar Project and its line cutover into a new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. If the Project is allowed to co-locate with other facilities in the area, the Project may construct a new pole to the east of the existing pole on the north side of the existing Drew Switchyard in order to reduce Gen-Tie crossings. If constructed above-ground, the Gen-Tie line would require a Variance (V-17-0003) to allow for Gen-Tie poles that may exceed 120 feet in height. Section 90508.07 and 90509.07 of the Land Use Ordinance limits non-residential structure height to 120-feet within the A-2, A-2-R and A-3 zones.

The Gen-Tie lines (whether underground or above-ground) would also require right-of-way (ROW) agreements/permits for electric and vehicular crossings of State (Caltrans) facilities, IID facilities and County facilities (refer to Section 2.3.3 of the Project Description). Such agreements would be coordinated based on the final engineering design between the Applicant and affected entities prior to Project implementation.

Improvements to the Drew Switchyard would require review and approval by IID and SDG&E for improvements to their facilities, and appropriate approvals by the County of Imperial for any grading work and/or new structures.

Table 4.2-2 summarizes the conditionally allowed uses allowed within each parcel applicable to the Project and demonstrates that the Project's proposed solar energy generation, storage, and transmission uses are allowed within the A-2, A-2-R and A-3 zones with a CUP. **Table 4.2-2** also identifies the conditionally allowable uses in the Renewable Energy (RE) Overlay Zone proposed by the Project's requested and General Plan Amendment (GPA#17-0006) and Zone Change (ZC#17-0007).

TABLE 4.2-2
SUMMARY OF ZONING FOR SOLAR FIELD SITE PARCELS AND TRANSMISSION LINE

Zoning	Purpose	Uses Allowed with a CUP
General Agriculture (A-2)	To designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses.	• Electrical generation plants (less than 50-MW) (90508.02.Y) • Electrical Power Generating Plant excluding nuclear or coal fired. (90508.02.Z) • Electrical substations in an electrical transmission system (500-kV/230-kV/161-kV). (90508.02.AA) • Facilities for the transmission of electrical energy (100-200 kV). (90508.02.CC)

TABLE 4.2-2
SUMMARY OF ZONING FOR SOLAR FIELD SITE PARCELS AND TRANSMISSION LINE

Zoning	Purpose	Uses Allowed with a CUP
General Agriculture (A-2)	To designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses.	• Major facilities relating to the generation and transmission of electrical energy, provided such facilities are not, under State or Federal law, to be approved exclusively by an agency or agencies of the state and/or federal governments and provided that such facilities shall be approved subsequent to coordination and review with the IID for electrical matters. (90508.02.UU). • Solar energy electrical generator (90508.02.FFF).
General Agriculture Rural (A-2-R)	To designate areas that are suitable and intended primarily for agricultural uses (limited) and agricultural related compatible uses.	• Electrical generation plants (less than 50-MW) (90508.02.Y) • Electrical Power Generating Plant excluding nuclear or coal fired. (90508.02.Z) • Electrical substations in an electrical transmission system (500-kV/230-kV/161-kV). (90508.02.AA)
Heavy Agriculture (A-3)	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	• Transmission lines, including supporting towers, poles microwave towers, utility substations. (90509.01.T) Note that this particular use is allowed by right without a CUP. • Solar energy plants (90509.02.CCC) • Major facilities relating to the generation and transmission of electrical energy, provided such facilities are not, under State or Federal law, to be approved exclusively by an agency or agencies of the state and/or federal governments and provided that such facilities shall be approved subsequent to coordination and review with the IID for electrical matters. (90509.02.QQ)

TABLE 4.2-2
SUMMARY OF ZONING FOR SOLAR FIELD SITE PARCELS AND TRANSMISSION LINE

Zoning	Purpose	Uses Allowed with a CUP
Renewable Energy (RE) Overlay Zone	A. To facilitate the beneficial use of renewable energy resources for the general welfare of the people of Imperial County and the State of California; to protect renewable energy resources from wasteful or detrimental uses; and to protect people, property, and the environment from detriments that might result from the improper use of renewable energy resources. B. To implement the Renewable Energy Overlay Zone established in the Renewable Energy and Transmission Element, and integrate, to the extent possible, Imperial County's regulations with those of other governmental agencies which regulate renewable energy development. C. To provide for the protection of the public health, safety and general welfare as the result of changes in the regulations or enforcement policies of those other agencies which regulate renewable energy development.	• 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 environmental impacts (91701.01). • "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 (91701.01). • Renewable Energy Projects must be located within the Renewable Energy Overlay Zone and may be permitted only through the issuance of a Conditional Use Permit (CUP) within applicable zones as approved by the Approving Authority unless otherwise allowed by applicable law. Renewable energy projects may consist of the following technologies: geothermal, solar, wind, deep solar ponds, biofuel, bio-mass, algae production, concentrated solar-thermal power, and concentrated photovoltaics (91701.03).

Source: County of Imperial 2015b.

Imperial County Airport Land Use Compatibility Plan (ALUCP)

The ALUCP provides the criteria and policies used by the Imperial County Airport Land Use Commission (ALUC) 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 California Public Utilities Code (CPUC) (Section 21676.5) empowers the ALUC to review additional types of land use "actions, regulations, and permits" involving a question of airport/land use compatibility if either: (1) the ALUC and the local agency agree that these types of individual projects shall be reviewed by the ALUC (Section 21676.5 (b)); or, (2) the ALUC finds that a local agency has not revised its general plan or specific plan or overruled the ALUC and the ALUC requires that the individual projects be submitted for review (Section 21676.5 (a)). The ALUC is also required to review "any request for variance from a local agency's height limitation ordinance" (Imperial County 1996, p. 2-3).

The Naval Air Facility, El Centro is approximately 7.5 miles north of northernmost Project parcels; the El Centro Airport is approximately 10 miles to the northeast of the northernmost Project parcels; and the Calexico International Airport is located approximately 7.75 miles east of the easternmost Project parcels. The privately-owned and operated Johnson Brothers Airstrip is located approximately 5.5 miles east of the easternmost Project parcels. As a private airstrip, the Johnson Brothers facility is not subject to the ALUCP. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the ALUCP, the Solar Field Site Parcels are not located within any of the Naval Air Facility, El Centro land use compatibility zones. According to Figure 3E (Compatibility Map-Imperial County Airport) of the ALUCP, the Project site is not located within any of the Imperial County Airport Land Use Compatibility Zones. According to Figure 3B (Compatibility Map-Calexico International Airport) of the ALUCP, the Project site is also not located within any of the Calexico International Airport land use compatibility zones (Imperial County 1996).

The Applicant submitted one Variance Application (V 17-0003) to the ICPDSD to address Gen-Tie structures that may exceed the A-2, A-2-R, and A-3 zoning height limitation of 120 feet. The proposed Project was presented and discussed at the County's ALUC Meeting held on June 20, 2018. In accordance with applicable rules and regulations, the ALUC reviewed the proposed application, including the variance requests for transmission structure height. The ALUC found the proposed Project consistent with the 1996 ALUCP. Therefore, consistency with the ALUCP is not further discussed in this EIR.

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. The Project does not propose any activities that would impede or preclude continued implementation of the Right to Farm Ordinance. Therefore, consistency with the Right to Farm Ordinance is not further discussed in this EIR.

4.2.2 ENVIRONMENTAL SETTING

As discussed in subsection 2.1.2 of Chapter 2.0, the proposed Project site includes approximately 762.8 net acres of land that have been used for agriculture located in the southwestern portion of Imperial County, approximately 6.5 miles southwest of the City of El Centro (refer to **Figure 2.0-1** in Chapter 2.0). The proposed Drew Solar Project is located between the Westside Main Canal and Pulliam Road, and between Kubler Road and SR 98. Regional access to the Project site is available via SR 98.

The Project site and surrounding are all designated for "Agriculture" land uses on the Imperial County Land Use Plan (refer to **Figure 4.2-1**) and zoned for varying densities of agricultural uses on the Imperial County Zoning Map (refer to **Figure 4.2-2**). The Project site is generally flat and in active agricultural production of flat crops, currently consisting of Bermuda grass. The perimeter of the Project site is surrounded by public roads as well as IID canal and drains. A number of IID laterals and drains also extend through the Project site (refer to Figure2.0-3 in Chapter 2.0, Project Description).

There are several other approved/built solar projects in the immediate vicinity surrounding the Project site, including Centinela Solar Energy Project, the Mount Signal Solar Farm and Calexico Solar (Cluster I Solar Power Project), Campo Verde Solar, Wistaria Ranch Solar Energy Center and Imperial Solar Energy Center South. The Project is bordered on the east and south by the existing Centinela Solar Project and is north of the existing Drew Switchyard. A majority of the solar projects in the area interconnect to the Drew Switchyard. The rest of the area is predominantly agricultural with very few residences and agricultural buildings.

4.2.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to land use if it would result in any of the following:

a) Physically divide an established community.

b) Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion "a" was eliminated from further evaluation as part of the Initial Study because the proposed Project is located in a portion of Imperial County with similar industrial solar generation projects (i.e. the Centinela Solar Energy Project, the Mount Signal Solar Farm and Calexico Solar (Cluster I Solar Power Project)) and would not physically divide any established community. The rest of the area is predominantly agricultural fields with a scattering of residences and agricultural buildings. The Project does not vacate any roads used by residents to connect with an existing established community. Therefore, no impact is identified for this issue area and it is not discussed further in the analysis.

C. METHODOLOGY

Evaluation of potential land use impacts of the proposed Project were based on review of relevant planning documents, including the Imperial County General Plan and Title 9 of the Imperial County Land Use Ordinance. The focus of the land use analysis is on land use impacts that would result from implementation of the Drew Solar Project. Land use conflicts are identified and evaluated based on existing land uses and land use designations; land use designations, standards and policies related to land use; and, the uses proposed by the Project.

Land use compatibility is based on the intensity and patterns of land use to determine whether the Project would result in incompatible uses or nuisance impacts. Potential land use conflicts or incompatibility are not themselves an environmental impact but can be an indicator of a project's significant impact on the environment.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Cause a Significant Environmental Impact due to a Conflict with Any Land Use Plan, Policy, or Regulation

Impact 4.2.1 Upon approval of the requested GPA, one ZC, one Parcel Map, six CUPs, one Variance and up to five Lot-Tie Agreements and a Development Agreement, the proposed Project would be consistent with the General Plan and Land Use Ordinance under both the Full-Buildout Scenario and Phased CUP Scenario. This is considered a **less than significant impact** under both the Full Build-out Scenario and Phased CUP Scenario**.**

Construction Phase

Solar Energy Generation Component

As discussed above under Methodology, the proposed uses, land use and zoning designations, policies and regulations applicable to the proposed Project are very similar throughout all of the proposed phases of the Solar Energy Generation Component. Under both the Full Build-out Scenario and Phased CUP Scenario, proposed construction activities at each of the five Solar Field Site Parcels would include the following: development of O&M facilities and parking lots; site appurtenances for utility connections for water; drainage; power; phone; TV and internet; driveways for access to County and Caltrans roads; rights-of-way; septic systems; perimeter fencing and on-site roads; raw/fire water supply; treated water storage; water filtration facilities; control buildings; improvements to County and Caltrans roads rights-of-way; project substations and improvements to the existing Drew Switchyard; solar generation facilities; inverters and collection system and transmission facilities crossing Caltrans and IID rights-of-way as conditionally allowed by the Land Use Ordinance in Agriculturally-zoned areas. Construction areas may also include development of energy storage facilities at each of the five Solar Field Site Parcels subject to Board of Supervisors' approval of a General Plan Amendment (GPA#17-0006) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project site and approval of the proposed Zone Change (ZC#17-0007) to add the Renewable Energy (RE) Overlay Zone to the Project site.

Compliance with applicable regulations have been addressed through the preparation of Project-specific technical studies and analyses provided in Section 4.1, and 4.4 through 4.14 of this EIR. No construction-related conflicts with existing land use plans and policies would occur under either the Full Build-out Scenario and or Phased CUP Scenario. In addition, like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable, State, and Federal regulations designed to avoid adverse impacts at the Project site and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during operations for the Solar Energy Generation Component under both the Full Build-out Scenario and Phased-Buildout Scenario.

Energy Storage Component

Construction activities at the Energy Storage Component under both the Full Build-out Scenario and Phased CUP Scenario would include development of O&M structures and transmission facilities as conditionally allowed by the Land Use Ordinance in Agriculturally-zoned areas. Construction activities would also include development of energy storage facilities, as allowed subject to Board of Supervisors' approval of a General Plan Amendment (GPA#17-0006) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project site and approval of the proposed Zone Change (ZC#17-0007) to add the Renewable Energy (RE) Overlay Zone to the Project site.

Compliance with issue-specific regulations related to construction have been addressed through the preparation of Project-specific technical studies and analysis provided in Sections 4.1 thru 4.4 and 4.6 through 4.14 of this EIR. No construction- related conflicts with existing land use plans and policies would occur during construction of the Energy Storage Component. Like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable, State, and Federal regulations designed to avoid adverse impacts at the Project site and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during construction for the Energy Storage Component of the proposed Project under both the Full Build-out Scenario and Phased CUP Scenario.

Drew Switchyard and Gen-Tie Lines Component

As discussed above, construction activities at the Drew Switchyard would include development of a new bay at the existing Drew Switchyard, new Gen-Tie poles on either side of SR 98 and Drew Road (one on the Project site, and one on the Drew Switchyard Site), and an approximately 400-foot long Gen-Tie connection line from the Project site to the Drew Switchyard site. A new pole may be constructed on the existing Centinela Solar Project and its line cutover into a new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings. If the Project is allowed to collocate with other facilities in the area, the Project may construct a new pole to the east of the existing pole on the northside of the existing Drew Switchyard in order to reduce Gen-Tie crossings. The proposed Gen-Tie line would require a Variance (V#17-0003) to allow for Gen-Tie poles that may exceed 120 feet in height. Section 90508.07 and 90509.07 of the Land Use Ordinance limits non-residential structure height to 120-feet within the A-2, A-2-R and A-3 zones.

Compliance with issue-specific regulations related has been addressed through the preparation of Project-specific technical studies and analysis provided in Section 4.1, and 4.3 through 4.13 of this EIR. No construction-phase related conflicts with existing land use plans and policies would occur during construction activities at the Drew Switchyard site. Like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable local, State, and Federal regulations designed to avoid adverse impacts at the Project site and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during construction for the Drew Switchyard Component of the proposed Project under both the Full Build-out Scenario and Phased CUP Scenario.

Operation

Solar Energy Generation Component

All of the Solar Field Site Parcels are currently designated "Agriculture" on the General Plan Land Use Map and zoned A-2, A-2-R, or A-3. Per Sections 90508.02 and 90509.02 (Uses Permitted with a Conditional Use Permit) of Division 5 of Title 9 of the Imperial County Land Use Ordinance, development of the Solar Field Site Parcels with a “solar energy electrical generator” and “solar energy plants” are an allowed use subject to a CUP. Consistent with this requirement, the Applicant submitted five CUP applications for solar generation and energy storage, and one CUP application for energy storage as a component of solar inclusive of all the proposed Solar Field Site Parcels to the Imperial County Planning and Development Services Department. The Project does not propose to change the existing underlying land use or zoning designations of any of the Solar Field Site Parcels included in the Solar Energy Generation Component. The Project does propose amending the General Plan (GPA#17-0006) to add an Island Overlay designation to the Project site and amending the Land Use Ordinance to add the RE Overlay zone (ZC#17-0007) to the Project site. Because the requested GPA is located directly adjacent to existing renewable energy generation and transmission facilities, the requested GPA is not anticipated to result in significant land use conflicts under both the Full Build-out Scenario and Phased CUP Scenario.

The purpose of the Land Use Ordinance is to provide goals, policies, and objectives to implement General Plan land use designations. As such, uses that are allowable or conditionally allowable under the Land Use Ordinance are considered consistent with corresponding land use designations of the General Plan. The Land Use Ordinance with its CUP procedures has been in effect for years upon a finding that CUPs were compatible with the General Plan. Accordingly, the County, general public, and Applicant are entitled to rely upon CUPs to demonstrate consistency with the General Plan. Therefore, upon County Board of Supervisors’ approval of the GPA, ZC, Parcel Map, six CUPs, a Variance, up to five Lot Tie Agreements and a Development Agreement discussed above, no conflict with the Imperial County General Plan or Land Use Ordinance would occur.

Further, the Project's consistency with issue-specific goals, policies and objectives contained within the General Plan, as well as standards contained within the Land Use Ordinance, have been addressed through the preparation of Project-specific technical studies and analysis in 4.1 thru 4.4 and 4.6 thru 4.13 of this EIR. For example, the Project is required to comply with the County of Imperial Fire Prevention and Explosives Ordinance; specifically, weed and vegetation control would be enforced as part of operation of the proposed Project. Mitigation measures have been identified to reduce potentially significant operational impacts to a level of less than significant. In addition, like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable local, State, and Federal regulations designed to avoid adverse impacts to the CUP Areas and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during operations for the Solar Energy Generation Component under both the Full Build-out Scenario and Phased CUP Scenario.

Energy Storage Component

As discussed above, the Applicant has requested a GPA (GPA#17-0006) to add an Island Overlay designation to the Project site; a ZC to add the RE Overlay zone (ZC#17-0007) to the Project site; a Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site; five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3; one CUP (CUP18#0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3; a Variance (V#17-0003) to allow for Gen-Tie line poles in excess of 120 feet in height; and up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel; and a Development Agreement.

Should the County approve the requested GPA, ZC, Parcel Map, six CUPs, Variance, Lot Tie Agreements and Development Agreement, the proposed Energy Storage Component would be consistent with the General Plan and Land Use Ordinance. Further, the Energy Storage Component's consistency with issue-specific goals, policies and objectives contained within the General Plan, as well as standards contained within the Land Use Ordinance, have been addressed through the preparation of Project-specific technical studies and analysis in 4.1 thru 4.4 and 4.6 thru 4.13 of this EIR. In addition, like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable local, State, and Federal regulations designed to avoid adverse impacts to the CUP Areas and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during operations for the Energy Storage Component under both the Full Build-out Scenario and Phased CUP Scenario.

Drew Switchyard and Gen-Tie Component

As discussed above, the Project proposes development of a new bay at the existing Drew Switchyard, and connection from the Project site to the Drew Switchyard via an approximately 400-foot long Gen-Tie line, with possible connections to and/or co-location of Gen-Tie lines with the adjacent Centinela Solar facility. The Applicant has requested a General Plan Amendment (GPA#17-0006) to add an Island Overlay designation to the Project site; a Zone Change (ZC#17-0007) to add the RE Overlay zone to the Project site; a Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section; five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3; one CUP (CUP18#0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3; one Variance (V#17-0003) to allow for Gen-Tie line poles in excess of 120 feet in height; up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single

parcel; and a Development Agreement. Should the County approve the Applicant's aforementioned requests, the proposed Drew Switchyard and Gen-Tie Component would be consistent with the General Plan and Land Use Ordinance.

Operational activities at the Drew Switchyard and associated Gen-Tie poles and lines would be limited to required maintenance. The Project's consistency with issue-specific goals, policies and objectives contained within the General Plan, as well as standards contained within the Land Use Ordinance, have been addressed through the preparation of Project-specific technical studies and analysis in 4.1 thru 4.4 and 4.6 thru 4.13 of this EIR. Mitigation measures have been identified to reduce potentially significant operational impacts to a level of less than significant. In addition, like all projects in Imperial County, the Project would be subject to mandatory compliance with applicable local, State, and Federal regulations designed to avoid adverse impacts to the Project site and surrounding environment. Further, operational activities at the Drew Switchyard would be subject to compliance with applicable SDG&E requirements. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during operations for the Drew Switchyard and Gen-Tie Component under both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

All Project Components

Decommissioning would be conducted in compliance with a required Reclamation Plan that would be implemented at the end of the Project's life and would adhere to Imperial County's decommissioning requirements. Further, decommissioning activities would be subject to mandatory compliance with applicable local, State, and federal regulations designed to avoid adverse impacts to the Project Area and surrounding environment. Therefore, environmental impacts due to a conflict with an applicable land use plan, policy or regulation would be **less than significant** during decommissioning/reclamation under the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.2.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the analysis of cumulative impacts related to land use is the area within a 20-mile radius of the Project Area. This distance was determined based on capturing projects within a reasonable distance of the Project Area. The cumulative setting for land use includes build-out of the proposed, approved and reasonably foreseeable projects in the region as identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. **Figure 3.0-1** shows the locations of the cumulative projects surrounding the Project Area.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Conflicts with Applicable Land Use Plans, Policies, or Regulations

Impact 4.2.2 Development of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the region would not incrementally cause a significant environmental impact due to a conflict with applicable land use plans, policies and regulations. Each CUP Area would be required to be overall consistent with the applicable plans, policies and regulations. Thus, environmental impacts associated with conflicts with applicable land use plans, policies and regulations are considered **less than cumulatively considerable** under both the Full Build-out Scenario and Phased Build-out Scenario.

Construction

All Project Components

Should the County of Imperial Board of Supervisors approve the requested General Plan Amendment (GPA#17-0006) to add an Island Overlay designation to the Project site; a Zone Change (ZC#17-0007) to add the RE Overlay zone to the Project site; a Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section; five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3; one CUP (CUP18#0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3; one Variance (V#17-0003) to allow for Gen-Tie line poles in excess of 120 feet in height; up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel; and a Development Agreement, the proposed Project construction would be considered consistent with the goals, objectives and policies of the General Plan and Land Use Ordinance as described in **Table 4.2-1**. Without these approvals, the Project would not be allowed to move forward. Likewise, other proposed, approved and reasonably foreseeable projects in the region as identified in Chapter 3.0, Table 3.0-1 would also be required to be overall consistent with General Plan land use designations in order for them to obtain necessary development permits, and would be evaluated for consistency on a case-by-case basis. Therefore, Project construction would not incrementally contribute to cumulative conflicts with the Imperial County General Plan during construction under the Full Build-out Scenario or Phased CUP Scenario. Environmental impacts related to conflicts with the Imperial County General Plan and Land Use Ordinance would be **less than cumulatively considerable** during construction under both the Full Build-out Scenario and the Phased Build-out Scenario.

Operation

All Project Components

Should the County of Imperial Board of Supervisors approve the requested GPA, ZC, Parcel Map, six CUPs, Variance and Development Agreement, potential land use conflicts associated with proposed Project operations would be considered consistent with the goals, objectives and policies of the General Plan and Land Use Ordinance as described in **Table 4.2-1**. Without these approvals, the Project would not be allowed to move forward. Other proposed, approved and reasonably foreseeable projects in the region as identified in Chapter 3.0, Table 3.0-1 would also be required to be overall consistent with General Plan land use designations in order for them to obtain necessary development permits, and would be evaluated for consistency on a case-by-case basis. As such, Project operations would not incrementally contribute to cumulative conflicts with the Imperial County General Plan or Land Use Ordinance during operation under the Full Build-out Scenario or Phased CUP Scenario. Environmental impacts related to conflicts with the Imperial County General Plan and Land Use Ordinance would be **less than cumulatively considerable** during operations under both the Full Build-out Scenario and the Phased Build-out Scenario.

Decommissioning/Reclamation

All Project Components

Project decommissioning would be required to maintain overall consistency with General Plan land use designations and Land Use Ordinance requirements. Activities during Project decommissioning would be required to comply with Mitigation Measures as identified in Section 4.1 thru 4.14 of this EIR, as well as with all mandatory State and Local regulations relating to removal of Project facilities and restoration of the site for agricultural production. Likewise, other proposed, approved and reasonably foreseeable projects in the region as identified in Chapter 3.0, Table 3.0-1 would also be required to be overall consistent with General Plan land use designations in order for them to obtain necessary development permits, and would be evaluated for consistency on a case-by-case basis. Therefore, the proposed Project would not incrementally contribute to cumulative environmental impacts due to conflicts with the Imperial County General Plan during decommissioning under the Full Build-out Scenario or Phased CUP Scenario. Potential for environmental impacts related to conflicts with applicable land use plans, policies and regulations would be **less than cumulatively considerable** during decommissioning under the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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SECTION 4.3

TRANSPORTATION

This section discusses the transportation, circulation and access impacts that would occur in association with implementation of the proposed Project. Impacts may occur from introduction of construction-related traffic on local roads, physical changes to roads, and access points created to allow entry and exit from each CUP. Information contained in this section is summarized from the *Drew Solar Farm County of Imperial (SR 98 at Drew Road) Draft Traffic Impact Analysis* prepared by LOS Engineering, Inc. (LOS 2018). This document is provided on the attached CD of Technical Appendices as **Appendix C** of this EIR.

This section of this EIR focuses on traffic impacts from construction and operation of the proposed Project. The construction phase will have the highest number of workers and greatest amount of traffic while the operations phase will have approximately 10 full-time personnel and generate very few trips. This volume of traffic is not representative of the number of workers and traffic generated during construction as the greatest amount of traffic will be generated by the highest concentration of workers in late 2019 (for the near-term scenario) with an average of 250 workers per day during construction, not operations. Therefore, the higher and more conservative construction trip generation was used to determine potential Project impacts. Decommissioning would occur in approximately 40 years. Accordingly, decommissioning traffic is too speculative for evaluation but is discussed on a qualitative level.

4.3.1 REGULATORY FRAMEWORK

A. STATE

California Department of Transportation

The State of California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System. Caltrans is also responsible for portions of the Interstate Highway System within the state's boundaries. Caltrans has jurisdiction over state highway right-of-way (ROW) and has the authority to issue permits for work and encroachments (temporary or permanent) in these areas. Likewise, Caltrans is involved in review of traffic control plans, stoppage of traffic for placement of aerial lines, and installation or removal of overhead conductors crossing a highway. The Project proposes to construct a 230-kV Gen-Tie. These segment of the Gen-Tie crossing the Caltrans right-of-way over SR 98 into the existing Drew Switchyard parcel would be approximately 400 feet in length and would be either overhead or underground. These gen-ties and the Project's proposed SR 98 driveway would require an encroachment permit from Caltrans to encroach into the SR 98 right-of-way.

B. LOCAL

Imperial County General Plan Circulation and Scenic Highways Element

The Circulation and Scenic Highways Element (Imperial County 2008a) is included as part of the Imperial County General Plan pursuant to requirements of law and policies of federal, state, and regional agencies. The purpose of the Element is to provide a comprehensive document which contains the latest information about the transportation needs of the County and the various modes available to meet these needs and to facilitate regional transportation coordination. This Element is also intended to provide a plan to accommodate a pattern of concentrated and coordinated growth providing both regional and local linkage systems between unique communities and the County's neighboring metropolitan regions. 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.

Table 4.3-1 analyzes the consistency of the proposed Project with the applicable Goal and objectives relating to land use in the County of Imperial General Plan. While this EIR analyzes the Project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Guidelines

section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.3-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
CIRCULATION AND SCENIC HIGHWAYS ELEMENT		
Safe, Convenient, and Efficient Transportation System		
Goal 1 The County will provide and require an integrated transportation system for the safe and efficient movement of people and goods within and through the County of Imperial with minimum disruption to the environment.	Yes	The proposed Project would rely primarily on County roadways for transport of workers and materials. Mitigation measures MM 4.5.3a thru MM 4.5.3h would minimize impacts to County roads and require that roads damaged by Project-related traffic be repaired. Therefore, the proposed Project is consistent with this goal under both the Full Build-out Scenario and Phased CUP Scenario.
Objective 1.1 Maintain and improve the existing road and highway network, while providing for future expansion and improvement based on travel demand and the development of alternative travel modes.	Yes	As noted in the analysis of Goal 1, mitigation measures 4.5.3a thru MM 4.5.3h would minimize impacts to roads and address roadway damage resulting from construction-related traffic. This is consistent with the County's objective to maintain roadways. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and Phased CUP Scenario.
Objective 1.2 Require a traffic analysis for any new development which may have a significant impact on County roads. A traffic analysis may not be necessary in every situation, such as when the size or location of the project will not have a significant impact upon and generate only a small amount of traffic. Also, certain types of projects, due to the trip generation characteristics, may add virtually no traffic during peak periods. These types of projects may be exempt from the traffic analysis requirements. Whether a particular project qualifies for any exemption will be determined by the Department of Public Works Road Commissioner.	Yes	A Draft Traffic Impact Analysis was prepared for the proposed Project by LOS Engineering, Inc. The analysis examined four scenarios (Year 2017, 2019, 2027, and 2060) to account for the possibility that the Project may be built in phases. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and Phased CUP Scenario.

TABLE 4.3-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
Objective 1.12 Review new development proposals to ensure that the proposed development provides adequate parking and would not increase traffic on existing roadways and intersection to a level of service (LOS) worse than "C" without providing appropriate mitigations to existing infrastructure. This can include fair share contributions on the part of developers to mitigate traffic impacts caused by such proposed developments.	Yes	The Draft Traffic Impact Analysis examined impacts to intersections, roadway State Route segment and freeway segment level of service (LOS) within the Project study area. The proposed Project would not result in any intersection, roadway segment or freeway segment operating below LOS C under any scenario (Year 2017, 2019, 2027, and 2060). Parking for Project-related vehicles will be provided on-site during construction. Parking for Project-related vehicles will be provided on site during construction. The parking lot may move to adjacent CUPs as new CUPs are constructed. Each O&M building would have its own parking lot with approximately 25 parking spaces (refer to Figure 2.0-11 in Chapter 2.0). Therefore, the proposed Project is consistent with this objective and no mitigation is required under both the Full Build-out Scenario and Phased CUP Scenario..

4.3.2 ENVIRONMENTAL SETTING

Information contained in this section is summarized from the *Drew Solar Farm County of Imperial (SR 98 at Drew Road) Draft Traffic Impact Analysis* prepared by LOS Engineering, Inc. (LOS 2018). The Draft Traffic Impact Analysis is included on the attached CD of Technical Appendices as **Appendix C** of this EIR.

A. EXISTING CIRCULATION NETWORK

The existing roadway system and classifications are described below. The classifications are based on the Imperial County's Circulation Element and valid as of the date (May 27, 2018) of the Project's Notice of Preparation of the EIR. Excerpts are included in Appendix G of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

Brockman Road between McCabe Road and Kubler Road has a classification of Major Collector in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

Forrester Road between I-8 and McCabe Road has a classification of Prime Arterial in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

Interstate 8 (I-8) between Drew Road and Imperial Avenue is constructed as a 4-lane divided interstate highway with 2 lanes in each direction.

Kubler Road between Pulliam Road and Brockman Road has a classification of Minor Collector in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

McCabe Road between Brockman Road and Forrester Road has a classification of Major Collector in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

Pulliam Road between Kubler Road and Brockman Road has a classification of Minor Collector in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

State Route (SR 98) between Drew Road and Clark Road has a classification of State Highway in the Circulation Element. This roadway is currently constructed as a 2-lane undivided roadway.

The existing roadway conditions are shown in **Figure 4.3-1**.

Level of Service

Intersection LOS

The operating conditions of the study intersections are measured using the Highway Capacity Manual (HCM) LOS designations ranging from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. LOS worsens from A to F based on delay in seconds at the intersection. **Table 4.3-2** shows the delays for each LOS associated with un-signalized and signalized intersections. The individual LOS criteria for each roadway component are described below.

TABLE 4.3-2
UN-SIGNALIZED AND SIGNALIZED INTERSECTION LEVEL OF SERVICE (HCM 2000)

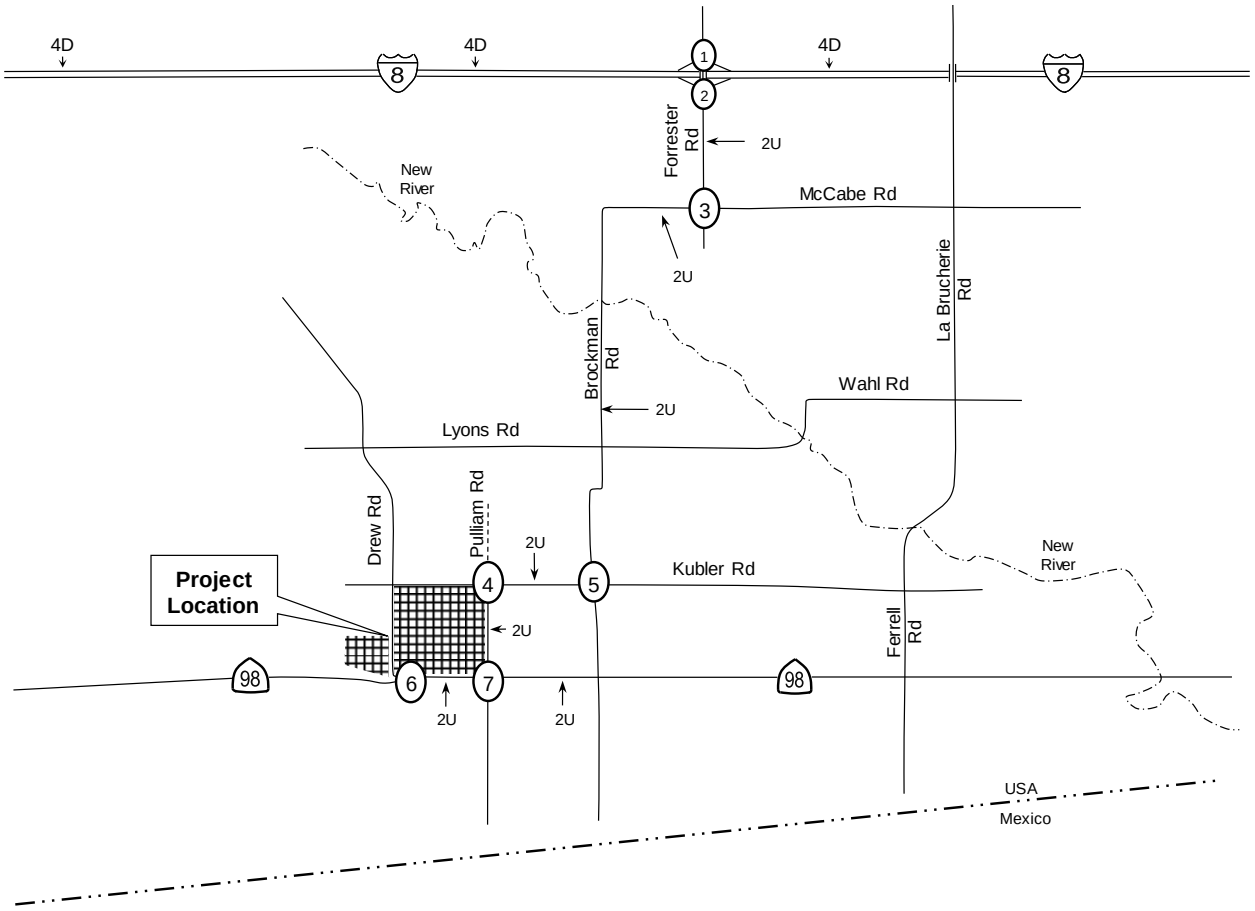
Level of Service	Un-Signalized (RWSC and AWSC) Control Delay (seconds/vehicle)	Signalized Control Delay (seconds/vehicle)
A	0-10	0-10
B	> 10-15	> 10-20
C	> 15-25	> 20-35
D	> 25-35	> 35-55
E	> 35-50	> 55-80
F	> 50	> 80

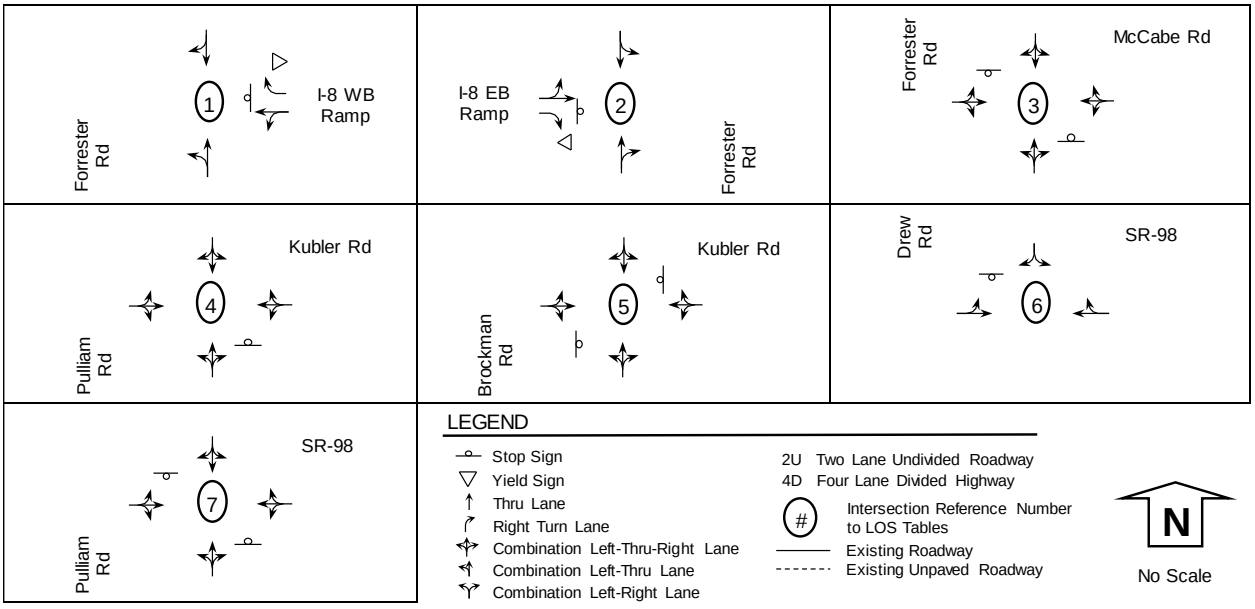
Source: LOS 2018.
TWSC: Two-Way Stop Control.
AWSC: All-Way Stop Control.

According to the California Department of Transportation's (Caltrans) *Guide for the Preparation of Traffic Impact Studies,* December 2002 ("Caltrans Guide"), the accepted methodology for un- signalized intersections is that contained in the most current edition of the HCM (excerpts included in Appendix B of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR). Therefore, all of the study interchanges with un-signalized intersections were analyzed using the most currently used edition of the HCM.

Roadway and State Route Segment LOS

The roadway and State Route segments were analyzed based on the functional classification of the roadway using the Imperial County Standard Street Classification capacity lookup table (copy included in Appendix C of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR). The capacity for SR 98 in the project vicinity is based on a "Local Collector" as noted in the Imperial County *Circulation and Scenic Highways Element* dated January 29, 2008 ("Circulation Element"). **Table 4.3-3** summarizes the roadway segment capacity and LOS standards used to analyze roadway segments.





Source: LOS 2018.

FIGURE 4.3-1
EXISTING ROADWAY CONDITIONS

TABLE 4.3-3
ROADWAY SEGMENT DAILY CAPACITY AND LOS (IMPERIAL COUNTY)

Circulation Element Road Classification	Cross Section	LOS A	LOS B	LOS C	LOS D	LOS E
Expressway	154/210	<30,000	<42,000	<60,000	<70,000	<80,000
Prime Arterial	106/136	<22,200	<37,000	<44,600	<50,000	<57,000
Minor Arterial	82/102	<14,800	<24,700	<29,600	<33,400	<37,000
Major Collector (Collector)	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
Minor Collector (Local Collector)	40/70	<1,900	<4,100	<7,100	<10,900	<16,200
Local County (Residential)	40/60	*	*	<1,500	*	*
Local County (Residential Cul-de-Sac or Loop Street)	40/60	*	*	<200	*	*
Major Industrial Collector – (Industrial)	76/96	<5,000	<10,000	<14,000	<17,000	<20,000
Industrial Local	44/64	<2,500	<5,000	<7,000	<8,500	<10,000

Source: LOS 2018, from Imperial County Department of Planning and Development Services Circulation and Scenic Highways Element January 29, 2008.
*Notes: *Level of service is not applied to residential streets because the primary purpose of residential streets is to serve abutting lots, rather than carry through traffic. Level of service normally applies to roads carrying through traffic between major trip generators and attractors.*

Freeway Segment LOS

The freeway segments, covering Interstate 8, were analyzed based on a multi-lane highway LOS criteria using a Volume to Capacity (V/C) ratio as outlined in the HCM. The V/C ratio is the ratio of traffic to the roadway capacity that provides a measure of how much roadway capacity is being used. The methodology accepted by Caltrans for the analysis of freeway sections is to use the most current edition of the HCM as noted on page 5 of the Caltrans Guide. **Table 4.3-4** summarizes the freeway LOS operations based on Caltrans' *Guide for the Preparation of Traffic Impact Studies* V/C ratios. (Excerpts from Caltrans' *Guide for the Preparation of Traffic Impact Studies* are included in Appendix D of the Draft Traffic Impact Analysis [**Appendix C** of this EIR].)

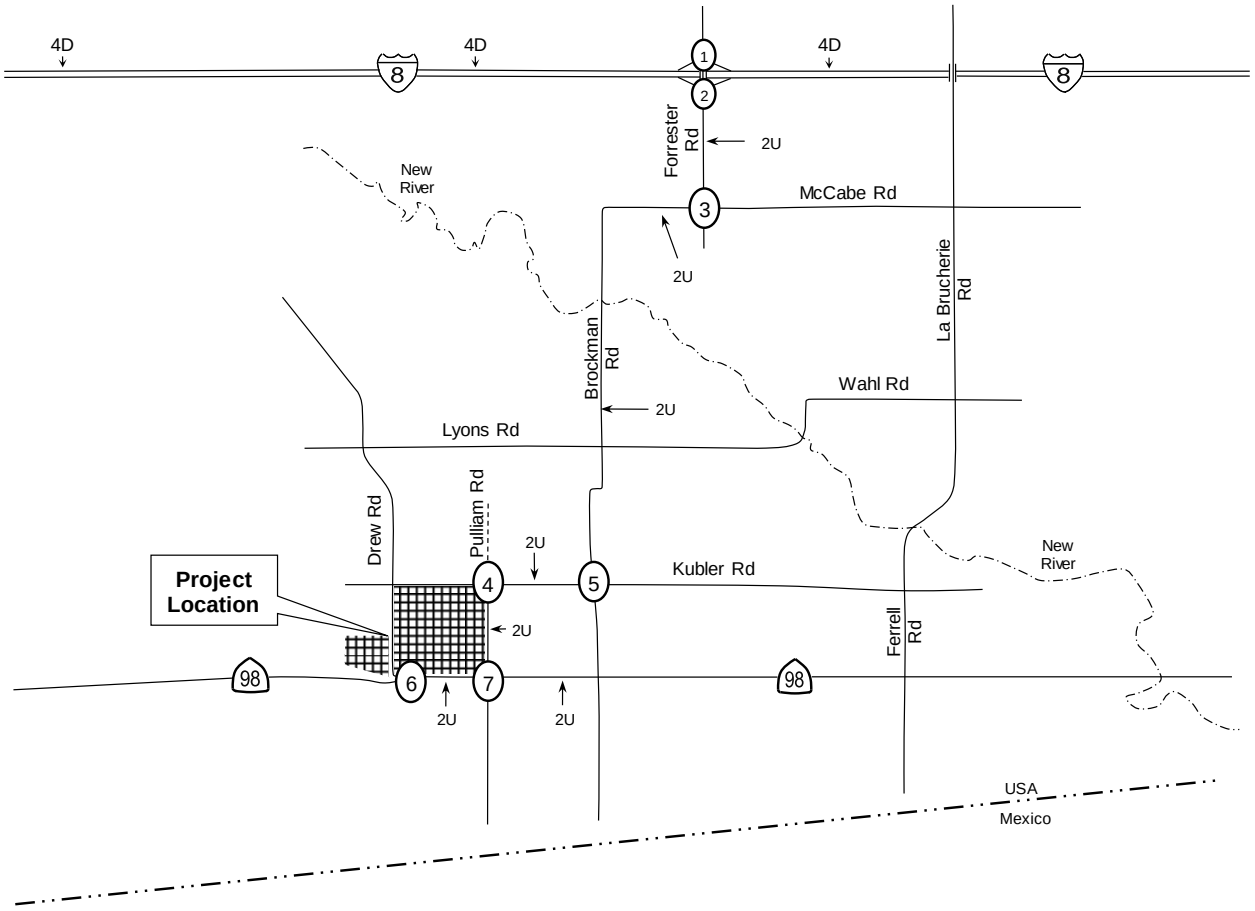
TABLE 4.3-4
FREEWAY LEVEL OF SERVICE

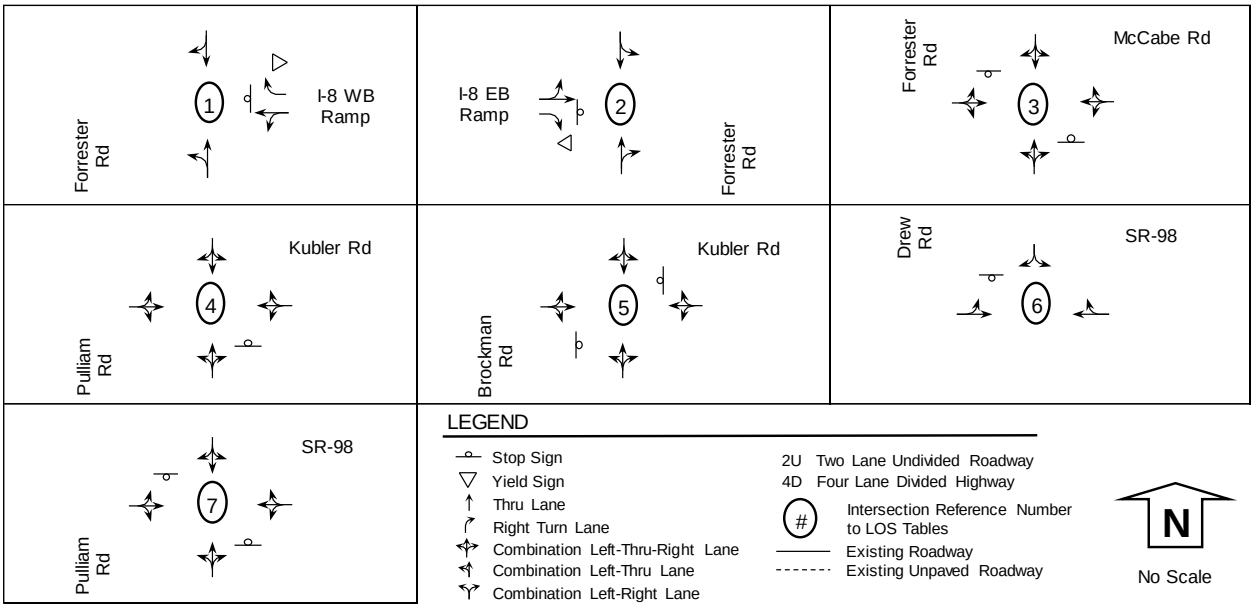
Measure of Effectiveness	LOS A	LOS B	LOS C	LOS D	LOS E
Max Volume/Capacity Ratio (V/C)	0.30	0.50	0.71	0.89	1.00

Source: LOS 2018 from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.

B. EXISTING CONDITIONS

Existing AM, PM, and daily volumes are shown on **Figure 4.3-2**. Count data are included in Appendix H of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR. The intersection, segment, and freeway LOS are shown in **Tables 4.3-5**, **4.3-6**, and **4.3-7** respectively. Intersections LOS calculations are included in Appendix I of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.





Source: LOS 2018.

FIGURE 4.3-2
EXISTING TRAFFIC VOLUMES

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TABLE 4.3-5
EXISTING INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	Year 2017	
			Delay[2]	LOS[3]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.7	A
		PM	9.6	A
2) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	11.1	B
		PM	13.6	B
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.5	A
		PM	9.5	A
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.6	A
		PM	8.6	A
5) Brockman Road and Kubler Road (U)	Minor Leg	AM	8.9	A
		PM	9.0	A
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.7	A
		PM	8.9	A
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.0	A
		PM	8.6	A

Source: LOS 2018.
[1] Intersection Control – (S) Signalized, (U) Unsignalized.
[2] Delay – HCM Average Control Delay in seconds.
[3] LOS: Level of Service Minor Leg; approach LOS of minor/lessor roadway.
All: combined LOS for all approaches.

TABLE 4.3-6
EXISTING ROADWAY AND STATE ROUTE LOS

Intersection & (Control)[1]	Classification (as built)	Year 2017				
		Daily Volumes	# of Lanes	LOS C Capacity	V/C	LOS
Brockman Road						
McCabe Road to Kubler Road	Major (2U)	497	2	7,100	0.07	A
Forrester Road						
I-8 to McCabe Road	Prime (2U)	1,977	2	7,100	0.28	B
Kubler Road						
Brockman Road to Ferrell Road	Minor (2U)	65	2	7,100	0.01	A
McCabe Road						
Brockman Road to Forrester Road	Major (2U)	738	2	7,100	0.10	A
Pulliam Road						
Kubler Road to SR 98	Minor (2U)	29	2	7,100	0.00	A
SR 98						
Drew Road to Pulliam Road	State Highway (2U)	2,090	2	7,100	0.29	B
Pulliam Road to Brockman Road	State Highway (2U)	2,090	2	7,100	0.29	B

Source: LOS 2018. Classification based on January 29, 2018 Circulation and Scenic Highways Element.
2U = 2 lane undivided roadway.
Daily volume is a 24-hour volume. LOS: Level of Service.
LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.

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TABLE 4.3-7
EXISTING FREEWAY LOS

Freeway Segment Forecasted	I-8 Dunaway Road to Drew Road				I-8 Forrester Road to Imperial Avenue			
Year 2017 ADT	14,000				17,200			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor [2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor [3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor [4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,032	1,131	1,299	1,321	1,318	1,446	1,661	1.689
Volume to Capacity	0.220	0.241	0.276	0.281	0.281	0.308	0.353	0.359
LOS	A	A	A	A	A	A	A	A

Source: LOS 2018.
Notes:
[1] Capacity of 2,350 pcphpl from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] Latest K factor from Caltrans (based on 2015 report), which is the percentage of AADT in both directions.
[3] Latest D factor from Caltrans (based on 2015 report), which when multiplied by K and ADT will provide peak hour volume.
[4] Latest truck factor from Caltrans (based on 2015 report).

Under existing conditions, the study intersections, roadways, State Route and freeway were calculated to operate at LOS B or better.

C. Study Area Criteria

The study area is determined based on the County of Imperial Department of Public Works *Traffic Study and Report Policy* dated March 12, 2007, revised June 29, 2007 and approved by the Board of Supervisors of the County of Imperial on August 7, 2007 ("Traffic Study and Report Policy"). "Any project that has the potential to degrade an existing road section, an existing signalized intersection, or an existing unsignalized intersection to below the existing level of service or to cause it to be lower than a level of service (LOS) "C" during any peak hour, using the HCM Methods of analysis on any individual, existing traffic movement" (Traffic Study and Report Policy, 4-5). The Project study area was determined based on similar solar projects in the same general area. The following intersections and Project driveway on SR 98 were analyzed as part of this study:

1) Forrester Road/I-8 WB Ramp (un-signalized)
2) Forrester Road/I-8 EB Ramp (un-signalized)
3) Forrester Road/McCabe Road (un-signalized)
4) Kubler Road/Pulliam Road (un-signalized)
5) Kubler Road/Brockman Road (un-signalized)
6) SR 98/Drew Road (un-signalized)
7) SR 98/Pulliam Road (un-signalized)
8) SR 98/West Project Driveway (currently does not exist)

Along with the following roadway and State Route segments:

1) Brockman Road from McCabe Road to Kubler Road
2) Forrester Road from I-8 to McCabe Road
3) Kubler Road from Pulliam Road to Brockman Road
4) McCabe Road from Brockman Road to Forrester Road
5) Pulliam Road from Kubler Road to SR 98
6) SR 98 between Drew Road and Pulliam Road
7) SR 98 between Pulliam Road and Brockman Road

And, the following Freeway (also referred to as Interstate) segments:

1) I-8 between Dunaway Road and Drew Road
2) I-8 between Forrester Road and Imperial Avenue

D. Existing (Year 2017) Traffic Volumes and LOS Analysis

Intersection Volumes

Existing peak hour intersection volumes (with count dates) were collected from 6:00 AM to 8:00 AM and from 4:00 PM to 6:00 PM for Draft Traffic Analysis:

1) Forrester Road/I-8 WB Ramp (Tuesday 11/4/2017)
2) Forrester Road/I-8 EB Ramp (Tuesday 11/4/2017)
3) Forrester Road/McCabe Road (Tuesday 11/4/2017)
4) Kubler Road/Pulliam Road (Tuesday 11/4/2017)
5) Kubler Road/Brockman Road (Tuesday 11/4/2017)
6) SR 98/Drew Road (Tuesday 11/4/2017)
7) SR 98/Pulliam Road (Tuesday 11/4/2017)
8) SR 98/West Project Driveway (currently does not exist)

Twenty-four hours of data were collected for the following roadway segments:

1) Brockman Road from McCabe Road to Kubler Road (Tuesday 11/4/2017)
2) Forrester Road from I-8 to McCabe Road (Tuesday 11/4/2017)
3) Kubler Road from Pulliam Road to Brockman Road (Tuesday 11/4/2017)
4) McCabe Road from Brockman Road to Forrester Road (Tuesday 11/4/2017)
5) Pulliam Road from Kubler Road to SR 98 (Tuesday 11/4/2017)

In addition, the data was obtained from Caltrans for the Freeway (Interstate) and State Route segments below. Please note that the latest available Caltrans data from 2016 was factored up to a year 2017 volume using a 1.8% annual growth factor (details provided under item "F. Methodology for Analysis", below).

1) I-8 between Dunaway Road and Drew Road
2) I-8 between Forrester Road and Imperial Avenue
3) SR 98 between Drew Road and Pulliam Road
4) SR 98 between Pulliam Road and Brockman Road

E. SCENARIOS

The number of scenarios to be analyzed is based on the methodology outlined in the County's Traffic Study and Report Policy. Excerpts from the Traffic Study and Report Policy showing the scenario criteria are included in Appendix A of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR. Based on the aforementioned methodology source and to account for the possibility that the project may be phased, the following scenarios were analyzed:

1) Existing 2017 Conditions
2) Existing 2017 + Project Conditions
3) Existing 2017 + Project + Cumulative Conditions
4) Near-Term Year 2019 Conditions
5) Near-Term Year 2019 + Project Conditions
6) Near-Term Year 2019 + Project + Cumulative Conditions
7) Long-Term Year 2027 Conditions
8) Long-Term Year 2027 + Project Conditions
9) Long-Term Year 2027 + Project + Cumulative Conditions
10) Horizon Year 2060 Conditions

Note that there is no separate analysis of phased construction of the Project because such phasing is captured within the bookend analysis provided by near- and long-term project forecasts.

Near-Term Year 2019 Conditions

This section documents Near-Term Year 2019 conditions when the project is anticipated to be at the peak of construction activities. The Year 2019 background volumes are based on increasing the existing Year 2017 volumes by an annual growth rate. The following documents and data were reviewed to determine a growth rate:

1) The California Economic Forecast *California County-Level Economic Forecast 2015-2040*, dated September 2015 documents an average annual growth factor of 1.8 percent from 2015 to 2020 for Imperial County.
2) The U.S. Census Bureau population data from year 2010 to year 2016 for Imperial County was used to calculatein an average growth factor of 0.6 percent.

For the purpose of the Draft Traffic Impact Analysis, the more conservative average growth rate of **1.8 percent** was selected for the annual population growth rate. Excerpts from the California Economic

Forecast and Census data are included in Appendix O of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR. Year 2019 traffic data was factored up from existing data through the application of a 1.8% annual growth rate (3.6% total).

Long-Term Year 2027 Conditions

This section documents Long-Term Year 2027 conditions in case the entire Project (in 18 months) is constructed at the end of the period when construction must commence per the CUP. The Year 2027 background volumes are based on increasing the existing year 2017 volumes by an annual growth rate of 1.8% (19.5% total due to compounding growth) as described under the Near-Term Year 2019 Conditions.

F. METHODOLOGY FOR ANALYSIS

The following describes the methodology used for the various aspects of the traffic analysis. The Draft Traffic Impact Analysis included traffic generated for all components of the Project but does not differentiate traffic specifically associated with each component. The analysis below is therefore inclusive of the Solar Energy Generation Component, Energy Storage Component and Drew Switchyard and Gen-Tie Component.

Intersections

The HCM operations analysis using LOS evaluation criteria were employed in the Draft Traffic Impact Analysis. The operating conditions of the Project study area intersections were measured using the HCM LOS designations ranging from A through F. LOS A represents the best operating condition and LOS F denotes the worst operating condition. LOS worsens from A to F based on delay in seconds at the intersection (refer to **Table 4.3-2**, above).

Roadway and Segments

The roadway and State Route segments were analyzed based on the functional classification of the roadway using the Imperial County Standard Street Classification capacity lookup table (refer to in Appendix C of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR). The capacity for State Route 98 in the project vicinity is based on a "Local Collector" as noted in the Imperial County Circulation and Scenic Highways Element dated January 29, 2008 ("Circulation Element"). The roadway segment capacity and LOS standards used to analyze roadway segments are summarized in **Table 4.3-3**, above.

Freeway Segments

The freeway segments, covering Interstate 8, were analyzed based on a multi-lane highway LOS criteria using a Volume to Capacity (V/C) ratio as outlined in the HCM. The V/C ratio is the ratio of traffic to the roadway capacity that provides a measure of how much roadway capacity is being used. The methodology accepted by Caltrans for the analysis of freeway sections is to use the most current edition of the HCM as noted on page 5 of the Caltrans Guide. The freeway LOS operations are based on the Caltrans Guide V/C ratios summarized below in **Table 4.3-4**. Relevant excerpts from the Caltrans Guide are included in Appendix D of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

G. PROJECT TRIP GENERATION

The project trip generation consists of a construction phase, an operations phase and a decommissioning/reclamation phase. The construction phase will have the highest number of trips followed by an operations phase with significantly fewer trips. This section describes the construction and operations trip generation. Traffic details for the project are included in Appendix J of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

The Project may be constructed at one time taking approximately 18 months or it may be completed over a ten-year period. Under the development agreement, the Conditional Use Permit (CUP) will be valid

for 40 years with up to 10 years to commence construction. If construction is to commence immediately after approvals, the Project could have the highest concentration of workers in Year 2019. If delayed due to market forces, the Project could have the highest concentration of construction workers in Year 2027. The project may also be phased (e.g., 20 MW constructed at a time or 1/5 of the overall Project) that would result in a lower concentration of construction workers and less trip generation. However, to be conservative, the entire Project (100 MW) was analyzed under Year 2019 and Year 2027 conditions assuming an 18-month construction period.

Construction Trip Generation

Construction of the Project includes site preparation, foundation construction, delivery of equipment and supplies, erection of major equipment and structures, installation of control systems, and start-up/testing. These construction activities are expected to require approximately 18 months.

According to the Applicant, the construction workforce may reach the highest concentration in late 2019 (for the near-term scenario) with an average of 250 workers per day (refer to Table 2.0-5 in Chapter 2.0, Project Description). Based on the Applicant's experience, about 75% of the workers follow a 4 day at 10 hours per day (4-10 shift) schedule, about 25% follow a 5 day at 8 hours per day (5-8 shift) schedule, and roughly 25% of the workers carpool. The workers also have different start and end times between the 4-10 and 5-8 shift schedules. The 4-10 shift workers typically arrive around 6:00 a.m. and depart around 5:00 p.m. while the 8-5 shift workers typically arrive around 7 a.m. and depart around 4:00 p.m.

Deliveries of equipment and supplies are anticipated to average about 10 daily truck trips per day. The HCM adjustment for heavy vehicles, such as trucks is through the application of a Passenger Car Equivalent (PCE) factor. Applying a PCE factor of 3 to the 10 daily truck trips, the PCE is 60 ADT with 6:00 a.m. peak hour trips (3 inbound and 3 outbound) and 6 p.m. peak hour trips (3 inbound and 3 outbound).

This analysis is based on the higher concentration (75%) of 4-10 shift workers that arrive between 6:00 a.m. and 7:00 a.m. and depart sometime between 5:00 p.m. and 6:00 p.m. **Table 4.3-8** summarizes the combined worker and construction truck traffic is calculated at 436 ADT with 147 a.m. peak hour trips (144 inbound and 3 outbound) and 147 p.m. peak hour trips (3 inbound and 144 outbound).

TABLE 4.3-8
PROJECT CONSTRUCTION TRIP GENERATION

Proposed Construction-Related Traffic	ADT	6:00 AM		7:00 AM		4:00 PM		5:00 PM	
		IN	OUT	IN	OUT	IN	OUT	IN	OUT
Construction Workers on 4 to 10 Shift (75% of 350)[1]	282	141	0	0	0	0	0	0	141
Construction Workers on 5 to 8 Shift (25% of 350) [2]	94	0	0	47	0	0	47	0	0
Equipment and Construction Trucks (with PCE)[3]	60	3	3	3	3	3	3	3	3
Total Traffic During Peak Construction Period	436	144	3	50	3	3	50	3	144
Daily and Higher Peak Hour Used for Analysis	436	144	3					3	144

Source: LOS 2014.

Notes: [1]*Applicant estimates the 4 days at 10 hrs/day (4-10s) shift to include about 188 workers (75% of the total 250 peak work force) with about 25% carpooling (47) and riding with the 75% (141), thus the inbound is 141 trips and the ADT is 282.*

[2] *Applicant estimates the 5 days at 8 hrs/day (5-8) shift to include about 62 workers (25% of the total 250 peak work force) with about 25% carpooling (15) and riding with the 75% (47), thus the inbound is 47 and the ADT is 94.*

[3] *Approx. 10 daily trucks with a Passenger Car Equivalent (PCE) factor of 3 applied to each truck equals 60 ADT (10 trucks x 2 x 3 PCE = 60 ADT) that are anticipated to have a frequency of about 1 in and 1 out per hour for a peak period volume of 6 (with PCE).*

Construction Trip Distribution and Assignment

The Applicant estimates that approximately 80% of the labor pool for the construction workforce is anticipated to come from a combination of existing residents and workers that will temporarily reside

within Imperial County ("Local Workforce"). The Local Workforce is anticipated to travel from Calipatria, Westmorland, Brawley, Imperial, El Centro, Holtville, and Calexico. The distribution of the construction workforce by cities/communities was based on the concentration of populations per the Census 2010 from the U.S. Census Bureau (U.S. Census Bureau 2010). **Table 4.3-9** shows the percentage of local construction workforce by city/community and county.

TABLE 4.3-9
CONSTRUCTION WORKFORCE SOURCES BASED ON CENSUS 2010 POPULATIONS (80 PERCENT LOCAL)

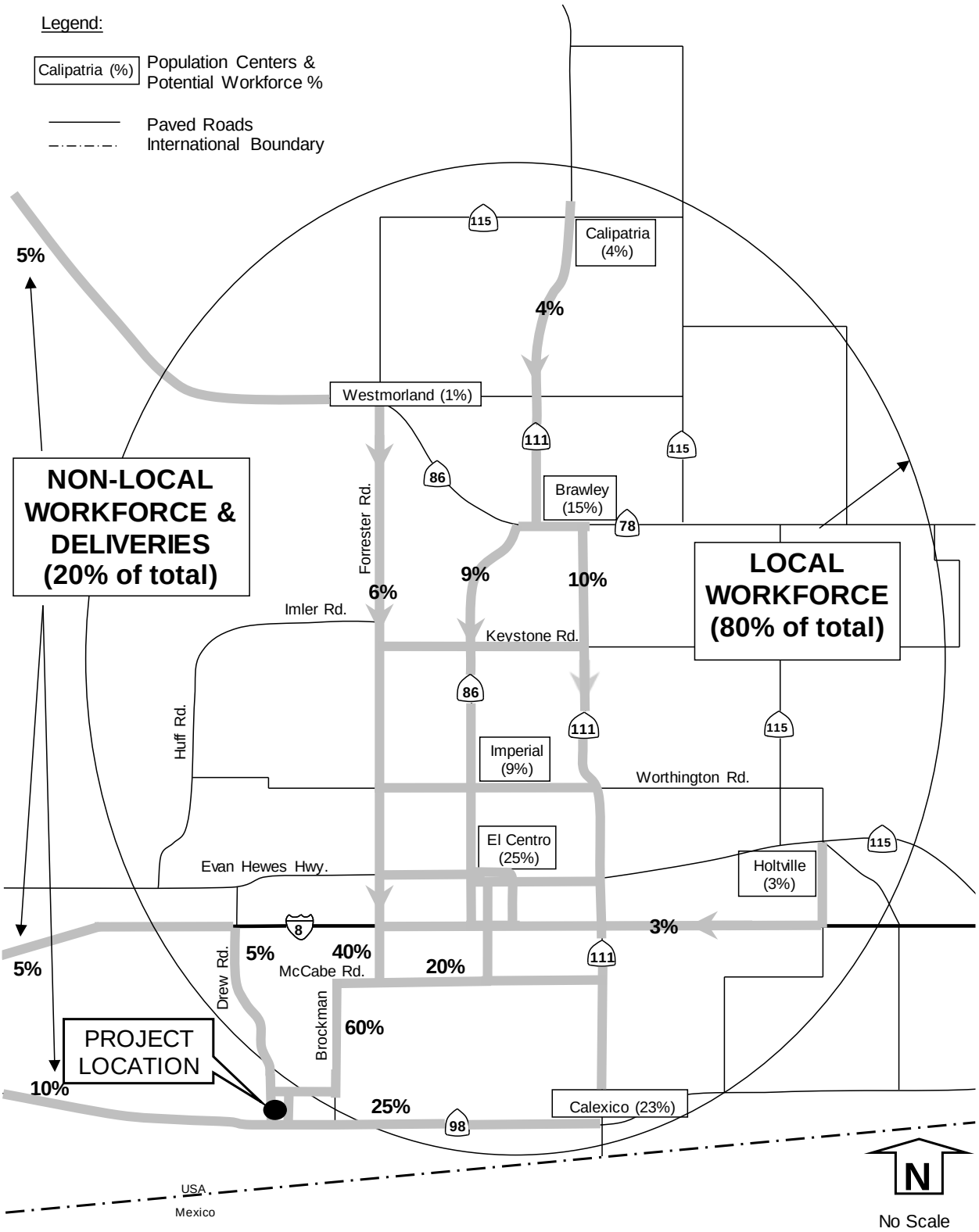
80 Percent Local Workforce	2010 Census Population	Percentage of Total	Percentage of Construction Employees (60% From Within Imperial County)
Calipatria	7,705	5%	4%
Westmorland	2,225	2%	1%
Brawley	24,953	18%	15%
Imperial	14,758	11%	9%
El Centro	42,598	31%	25%
Holtville	5,939	4%	3%
Calexico	38,572	28%	23%
Total	136,750	100%	80%

Source: LOS 2018. Population data from U.S. Census Bureau (http://2010.census.gov/2010census).

The remaining construction workforce and deliveries will come from outside Imperial County ("Non-Local Workforce") and is estimated to be from San Diego County (15%) and Riverside County (5%). **Figure 4.3-3** is based on the aforementioned Census information, the regional construction distribution. The local distribution accounted for the project driveway throughout the project site. **Figure 4.3-4** shows the local area distribution. **Figure 4.3-5** shows the peak (Year 2019) construction trip assignment based on the aforementioned distribution.

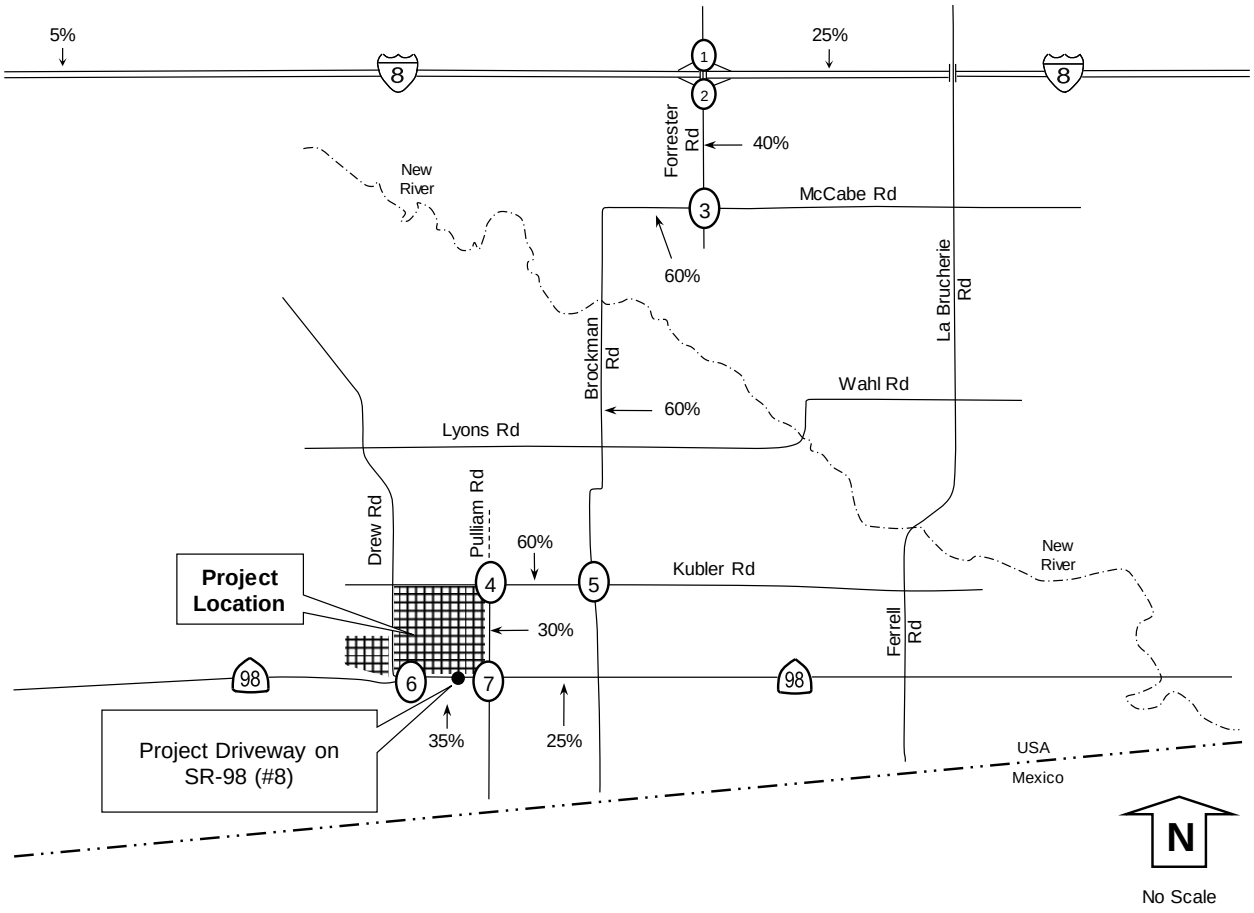
Project Operations and Maintenance Trip Generation

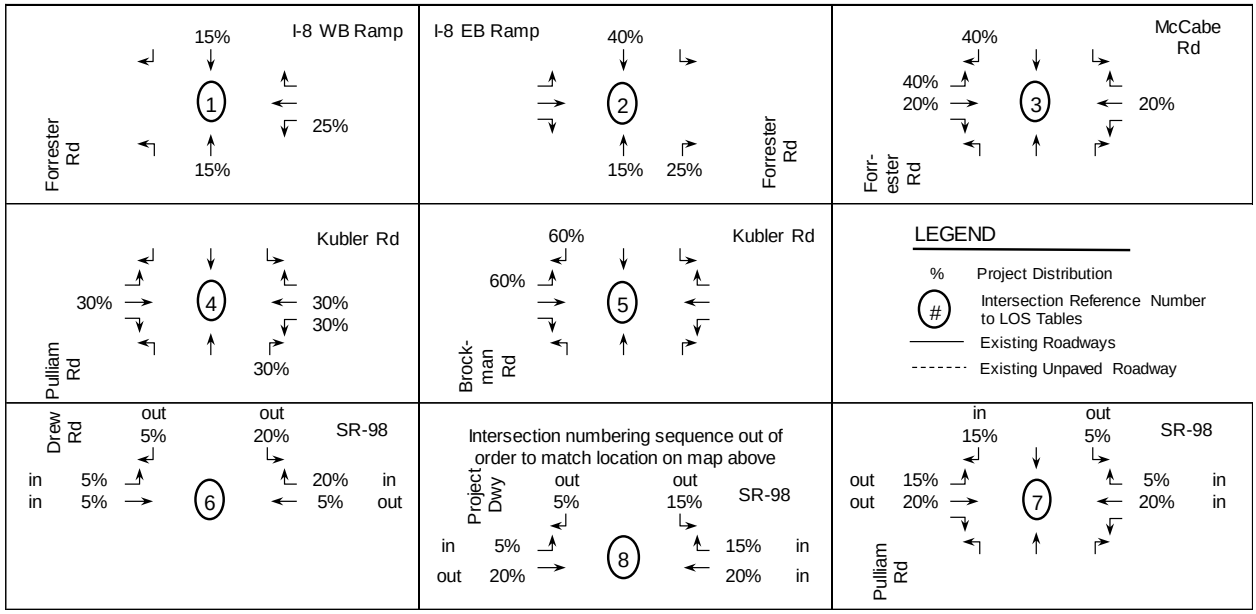
According to the Applicant, the operations phase is expected to generate approximately 4 to 10 trips per day from maintenance and security personnel. Based on this information, the operations and maintenance personnel are estimated to generate up to 20 ADT with approximately 2 AM and 2 PM peak hour trips. Therefore, the higher and more conservative construction trip generation is used to determine potential project impacts.



Source: LOS 2018.

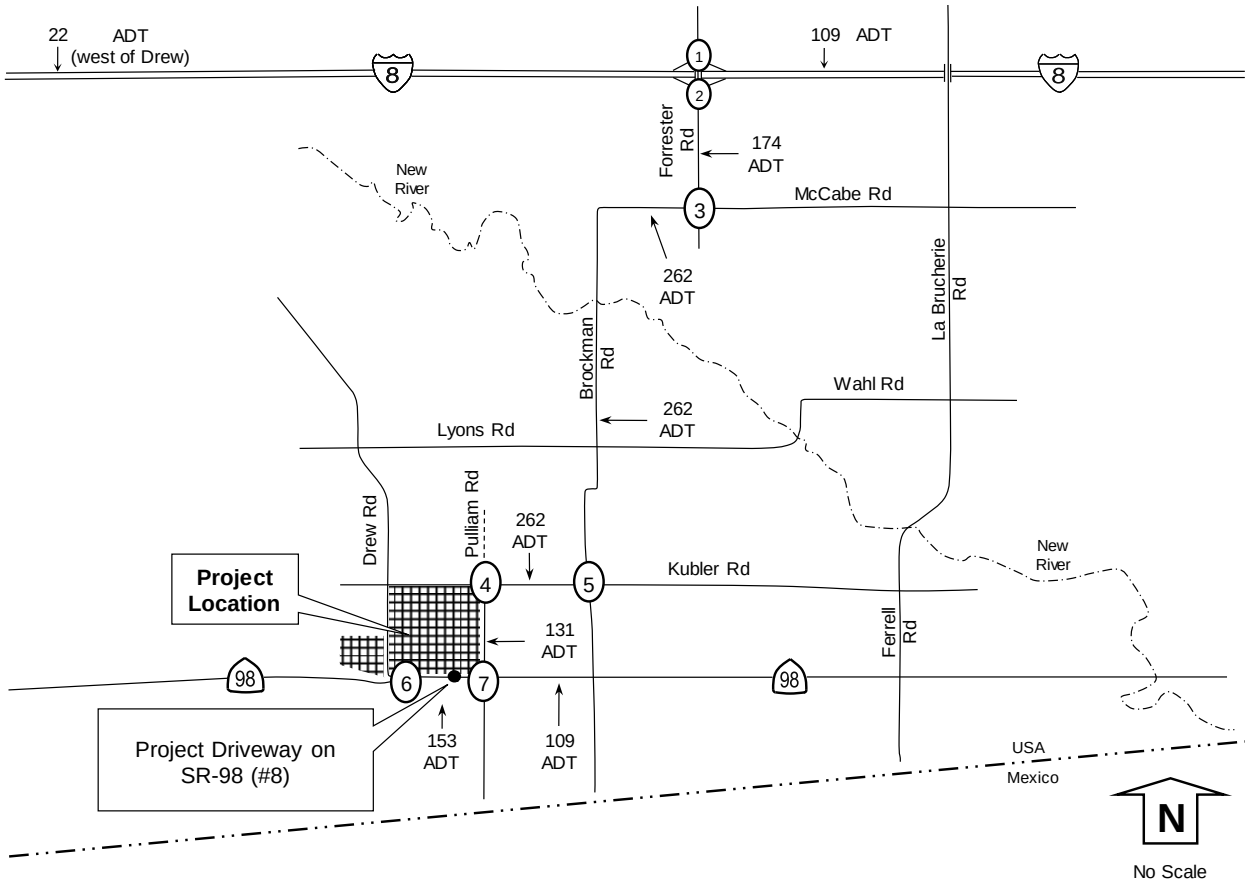
FIGURE 4.3-3
REGIONAL CONSTRUCTION DISTRIBUTION

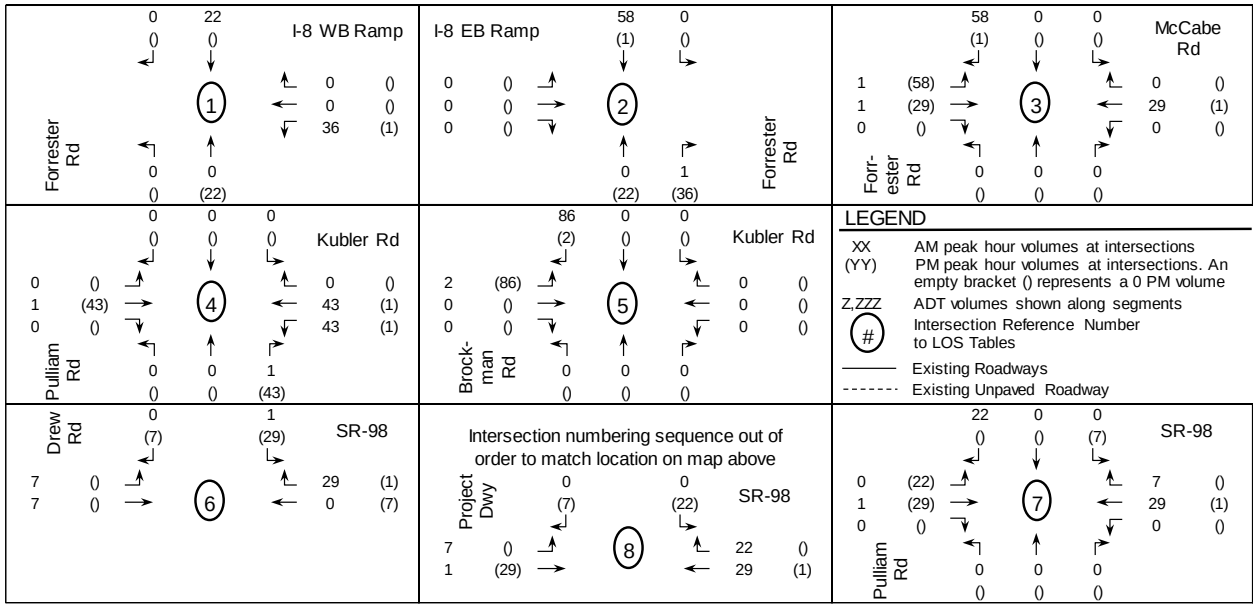




Source: LOS 2018.

FIGURE 4.3-4
LOCAL PROJECT CONSTRUCTION DISTRIBUTION





Source: LOS 2018.

FIGURE 4.3-5
PROJECT CONSTRUCTION TRAFFIC

4.3.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The CEQA significance criteria listed below were used to determine if the proposed Project would result in impacts to transportation and circulation. These criteria are the same as the significance criteria for Transportation/Traffic listed in the CEQA Environmental Checklist, Appendix G of the 2018 CEQA Guidelines. Under CEQA, the proposed Project would have a significant impact on transportation and circulation if it would:

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.

b) Conflict or be inconsistent with CEQA Guidelines §15064.3 subdivision (b).

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

d) Result in inadequate emergency access.

The significance criteria for traffic impacts are based on the Imperial County Planning & Development Services Department LOS standard as outlined in the "Circulation Element". "The County's goal for an acceptable traffic service standard on an Average Daily Traffic (ADT) basis and during AM and PM peak periods for all County-Maintained Roads shall be LOS C for all street segment links and intersections." Circulation Element, 55. Excerpts from the *Circulation and Scenic Highways Element* are included in Appendix E of this EIR. The determination of direct or cumulative traffic impacts is defined by the significance criteria outlined in **Table 4.3-10**, which was obtained from several EIRs for projects located in Imperial County. Copies of traffic significance criteria from these project EIRs are included in Appendix F of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

TABLE 4.3-10
SIGNIFICANCE CRITERIA

Existing	Existing With Project	Existing With Project With 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 $\geq$ 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 but adds 2.0 to 9.9 seconds of delay	LOS E or worse	Cumulative
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[1]

TABLE 4.3-10
SIGNIFICANCE CRITERIA

Existing	Existing With Project	Existing With Project With Cumulative Projects	Impact Type
LOS D	LOS D and V/C > 0.02	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 & V/C 0.02 to 0.09	LOS E or worse	Cumulative
Any LOS	LOS E or worse & V/C < 0.02	Any LOS	None

Source: LOS 2018. LOS = Level of Service. NA = Not Applicable.
Notes: [1] Exception: post-project segment operation is LOS D and intersections along segment are LOS D or better resulting in no significant impact.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

None of the CEQA Appendix G significance criteria were scoped out as part of the Initial Study.

C. METHODOLOGY

The methodology for analysis has been previously described as it was also pertinent to the discussion of existing traffic conditions. Please refer to subsection 4.3.2 Environmental Setting, item E, "Methodology for Analysis." Horizon Year 2060 methodology associated with decommissioning is described below.

Horizon Year 60

The Year 2060 was selected as the Horizon Year because it is 40 years past the earliest estimate (Year 2019 construction peak with completion about a year later or 2020) of when the project may be constructed and decommissioned. Under the Development Agreement, the CUP will be valid for 40 years with up to 10 years to commence construction. At the conclusion of the CUP term (estimated at Year 2059), the Project entitlements require the Applicant to decommission/reclaim the site and restore it to agricultural uses in accordance with a Reclamation Plan. The Reclamation Plan is anticipated to generate traffic on the roads in the vicinity of the Project from trucks removing solar panels and other infrastructure from the site after the 40-year CUP life. The traffic would also include the workers who travel to and from the Project site to perform the work.

After careful consideration of various methodologies for evaluating such traffic impacts, it is not possible to accurately forecast the traffic impacts for the following reasons:

1) There have been no solar projects decommissioned in Imperial County yet to provide a reference point for potential traffic impacts;

2) The near-term construction work force is based on the concentration of populations per the 2010 Census. The source and location of a Horizon Year 2060 construction work force cannot be estimated in the same manner; therefore, it would require speculation to determine where the construction work force would originate and the number of workers from the local area (i.e. Imperial Valley) vs. the regional area (i.e. Los Angeles, San Diego, or Arizona);

3) Other solar projects on the cumulative project list in the vicinity may or may not be undergoing decommissioning phase activities at the same time. Many of these other solar projects have a 10-year extension option and it is not possible to estimate how many would exercise the option. Accordingly, only a guess could be made to as to when the other cumulative projects would initiate decommissioning and thus would add traffic to the horizon year background conditions;

4) The horizon year traffic model for Imperial County does not have horizon year volumes for the study area roadways around the Project site nor does the traffic model have data for decommissioning scenarios; and

5) The California Economic Forecast *California County-Level Economic Forecast 2015-2040*, dated September 2015 does not forecast beyond 2040.

Therefore, after a thorough investigation for reliable data having used best efforts to obtain and disclose all the information reasonably available regarding traffic in the decommissioning phase, the only conclusion that can be drawn decommissioning traffic is simply too speculative for evaluation.

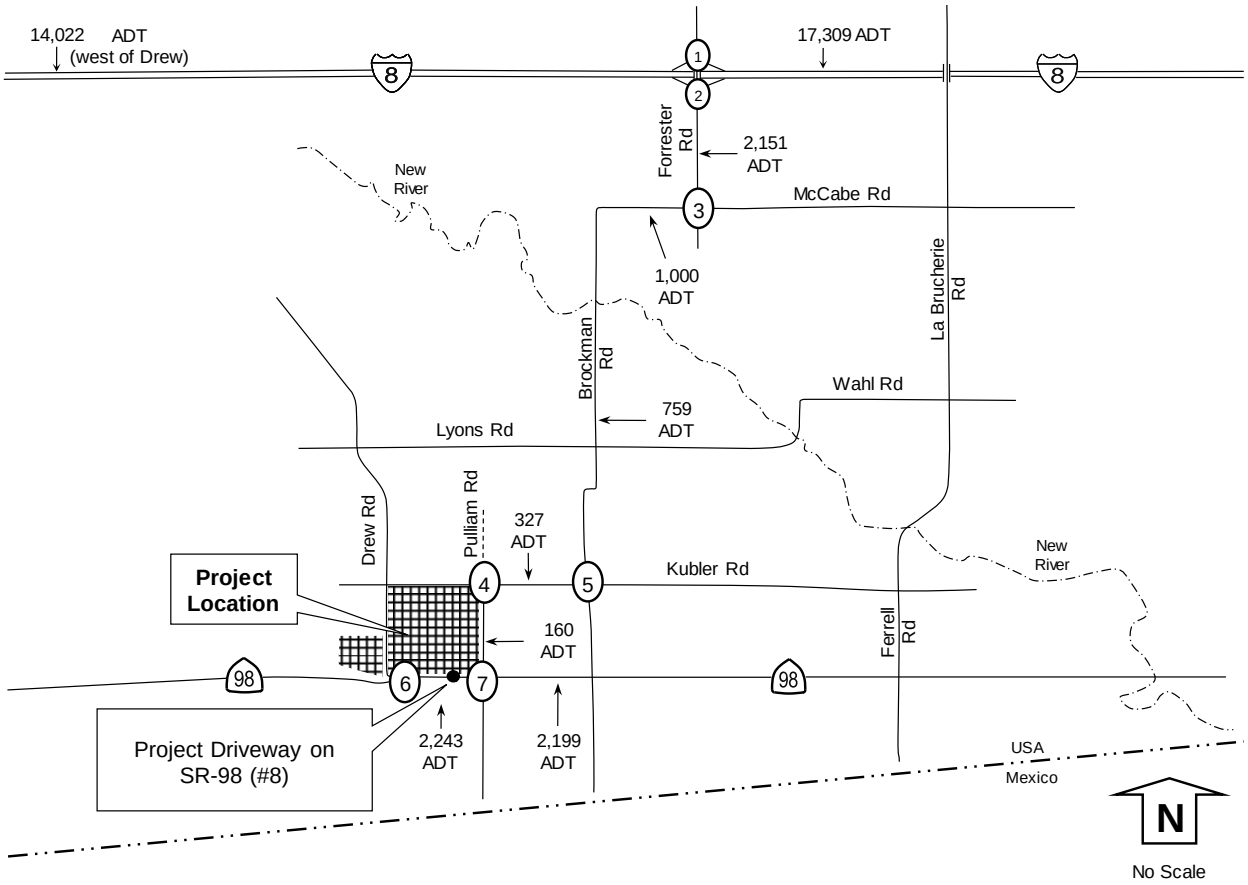
D. PROJECT IMPACTS AND MITIGATION MEASURES

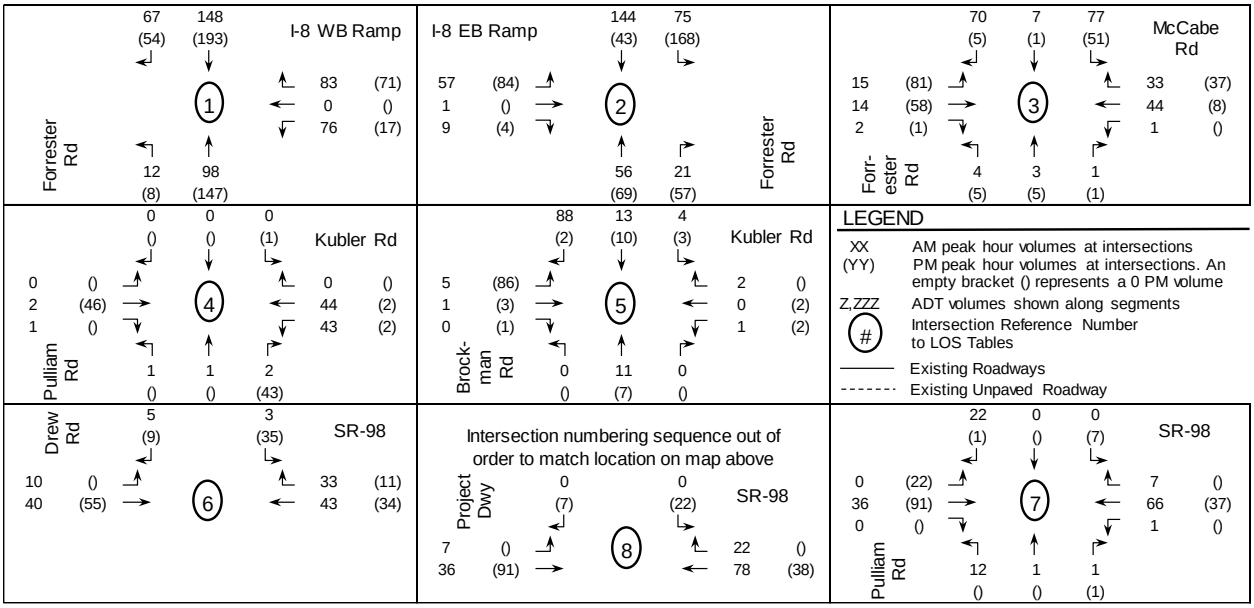
Conflict with Applicable Plan – Existing Year 2017 Plus Project Construction Conditions

Impact 4.3.1 Implementation of the proposed Project would add traffic to existing traffic volumes on Project study area intersections, roadway segments and freeway segments during (Year 2017) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** for (Year 2017) with Project construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Existing (Year 2017) With Project Construction Conditions

This section documents the addition of construction traffic onto (Year 2017) conditions to analyze scenario if the Project was constructed immediately over 18 months. **Figure 4.3-6** shows (Year 2017) With Project Construction traffic volumes. Intersection, segment, and freeway LOS are discussed below.





Source: LOS 2018.

FIGURE 4.3-6
EXISTING (YEAR 2017) WITH PROJECT CONSTRUCTION VOLUMES

Intersection LOS

Table 4.3-11 summarizes intersection LOS. (Intersection LOS calculations are included in Appendix M of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).

TABLE 4.3-11
EXISTING (YEAR 2017) WITHOUT AND WITH PROJECT CONSTRUCTION INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	Existing (Year 2017)		Existing (Year 2017) With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Forrester Road at I-8 WB (U)	Minor Leg	AM	9.7	A	10.2	B	0.5	None
		PM	9.6	A	9.8	A	0.2	None
2) Forrester Road at I-8 EB (U)	Minor Leg	AM	11.1	B	11.6	B	0.5	None
		PM	13.6	B	14.7	B	1.1	None
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.5	A	9.9	A	0.4	None
		PM	9.5	A	11.0	B	1.5	None
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.6	A	9.0	A	0.4	None
		PM	8.6	A	9.2	A	0.6	None
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	8.9	A	9.1	A	0.2	None
		PM	9.0	A	9.1	A	0.1	None
6) Drew Rad at SR 98 (U)	Minor Leg	AM	8.7	A	8.9	A	0.2	None
		PM	8.9	A	9.1	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.0	A	9.4	A	0.4	None
		PM	8.6	A	8.8	A	0.2	None
8) SR 98 at Project West Driveway (U)	Minor Leg	AM	DNE	A	1.2	A	NA	None
		PM	DNE	A	9.2	A	NA	None

Source: LOS 2018.

Notes:
[1] Intersection Control - (S) Signalized, (U) Unsignalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.
[4] Delta is the increase in delay from project.
[5] Type of impact: none, direct, or cumulative. DNE: Does not Exist. NA: Not Applicable.

Under existing (Year 2017) With Project Construction Conditions, all Project study area intersections were calculated to operate at LOS B or better above the County's LOS C threshold. As shown, only two intersections would experience a decline from LOS A to LOS B. This would occur for the intersection of Forrester Road and westbound I-8 during the AM Peak Hour and for the intersection of Forrester Road and McCabe Road in the PM Peak Hour. No significant impacts to Project study area intersections were calculated due to the addition of construction traffic to existing traffic. Moreover, the increases in traffic resulting from construction of the proposed Project would not exceed LOS standards. Therefore, **less than significant** impacts to Project study area intersections would result under Existing (Year 2017) With Project Construction Conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Roadway and State Route Segment LOS

Table 4.3-12 summarizes roadway segment LOS for Existing (Year 2017) With Project conditions. As shown, only one change in LOS would occur along the segment of Forrester Road which would decrease from LOS A to B. All other segments would all operate above LOS C (at LOS A or LOS B). Therefore, **less than significant** impacts to Project study area roadway and state route segments would result under Existing (Year 2017) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Freeway Segment LOS

Table 4.3-13 summarizes freeway segment LOS. Under existing (Year 2017) With Project Conditions, the freeway segments were calculated to operate above LOS C (at LOS A and LOS B). I-8 from Drew Road to Forrester Road would continue to operate at LOS A in the AM and PM peak hour in both directions (eastbound and westbound). I-8 from Forrester Road to Imperial Avenue would continue to operate at LOS A during the AM and PM peak hour in the eastbound direction and LOS B in the PM peak hour in the westbound direction and the PM peak hour eastbound direction. Moreover, the increases in traffic resulting from Project construction would not exceed V/C ratios or LOS standards. Therefore, **less than significant** impacts to Project study area freeway segments would occur under Existing (Year 2017) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Overall, under Existing (Year 2017) Plus Project Conditions, the Project study intersections, roadway, State Route and freeway segments were calculated to operate at LOS B or better. Thus, **less than significant** impacts were calculated with the addition of Project construction traffic to existing traffic volumes under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

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TABLE 4.3-12
EXISTING (YEAR 2017) WITHOUT AND WITH PROJECT CONSTRUCTION ROADWAY AND STATE ROUTE SEGMENT LOS

Roadway Segment	Classification (as built)	(Year 2017) Without				Project Daily Volume	(Year 2017) With Project					
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Significant Impact?
Brockman Road												
McCabe Road to Kubler Road	Major (2U)	497	7,100	0.07	A	262	759	7,100	0.11	A	0.04	None
Forrester Road												
I-8 to McCabe Road	Prime (2U)	1,977	7,100	0.28	B	174	2,151	7,100	0.30	B	0.02	
Kubler Road												
Brockman Road to Ferrell Road	Minor (2U)	65	7,100	0.01	A	262	327	7,100	0.05	A	0.04	None
McCabe Road												
Forrester Road to LaBrucherie Road	Major (2U)	738	7,100	0.10	A	262	1,000	7,100	0.14	A	0.04	None
Pulliam Road												
Kubler Road to SR 98	Minor (2U)	29	7,100	0.00	A	131	160	7,100	0.02	A	0.02	
SR 98				0.29	B	153	2,243	7,100	0.32	B	0.02	None
Drew Road to Pulliam Road	State Highway (2U)	2,090	7,100									
Pulliam Road to Brockman Road	State Highway (2U)	2,090	7,100	0.29	B	109	2,199	7,100	0.31	B	0.02	None

Source: LOS 2018.

Notes: Classification based on January 1, 2018 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway. Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

TABLE 4.3-13
EXISTING (YEAR 2017) WITHOUT AND WITH PROJECT CONSTRUCTION FREEWAY SEGMENT LOS

Freeway Segment	I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2017) Without								
ADT	14,000				17,200			
Peak Hour	AM		PM		AM		PM	
Directions	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,032	1,131	1,299	1,321	1,318	1,446	1,666	1,689
V/C	0.220	0.241	0.276	0.218	0.281	0.308	0.353	0.359
LOS	A	A	A	A	A	B	B	B
Peak Project Hour Volume	7	0	0	7	01	36	36	1
Year2017 Plus Project								
Peak Hour Volume	1,039	1,131	1,299	1,328	1,319	1,482	1,697	1,690
V/C	0.221	0.241	0.276	0.283	0.281	0.315	0.361	0.360
LOS	A	A	A	A	A	B	B	B
Increase in V/C	0.001	0.000	0.000	0.001	0.000	0.008	0.008	0.000
Impact	None	None	None	None	None	None	None	None

Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.

[2] Latest K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.

[3] Latest D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.

[4] Latest truck factor from Caltrans (based on 2015 report). Impact? = Direct, Cumulative, or None.

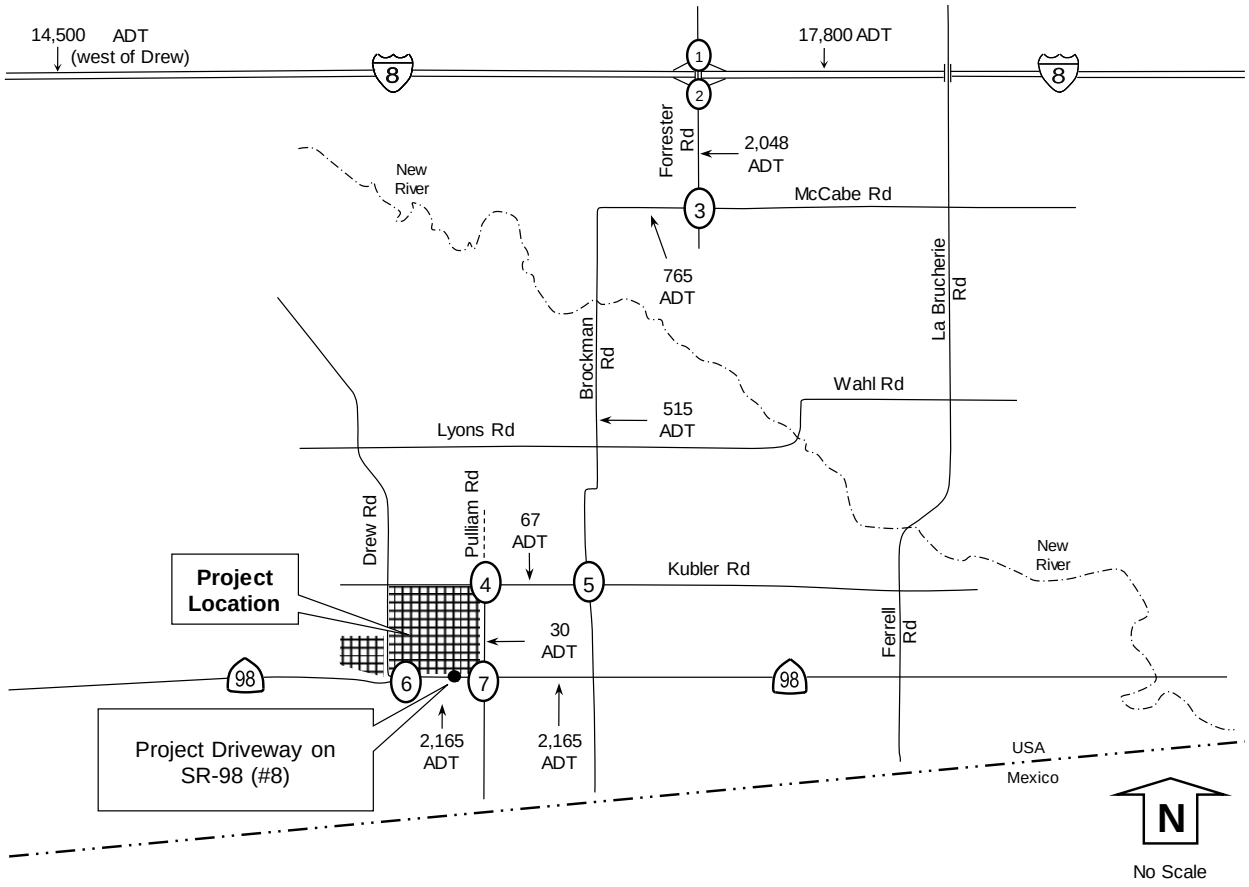
Conflict with Applicable Plan– Near-Term (Year 2019) With Project

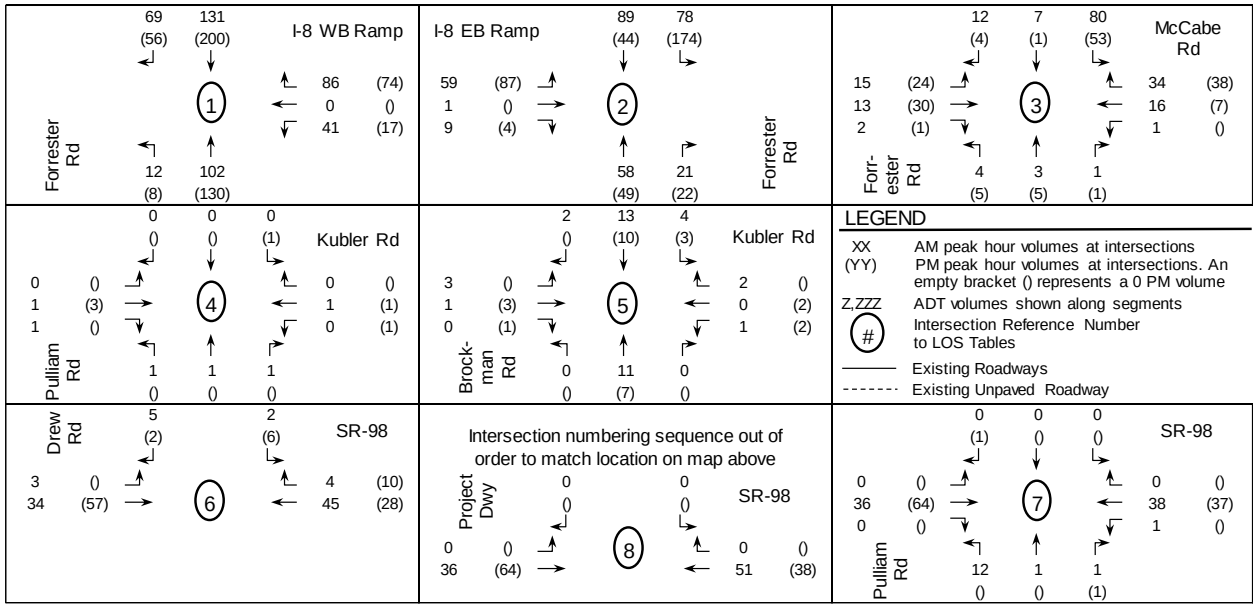
Impact 4.3.2 Implementation of the proposed Project would add traffic to existing traffic volumes on the Project study area intersections, roadway segments and freeway segments during Near-Term (Year 2019) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** under Near-Term (Year 2019) with Project Conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Year volumes for the construction peak period were calculated by increasing existing volumes for year 2017 by 1.8% annually (3.6% total) as shown in **Figure 4.3-7**. Intersection, roadway, State Route and freeway segment LOS are shown in **Table 4.3-14, Table 4.3-15** and **Table 4.3-16**.

Intersection LOS

Table 4.3-14 summarizes intersection LOS. (Intersection LOS calculations are included in Appendix M of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).





Source: LOS 2018.

FIGURE 4.3-7
NEAR-TERM (YEAR 2019) TRAFFIC VOLUMES

TABLE 4.3-14
NEAR-TERM (YEAR 2019) INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2019)	
			Delay[2]	LOS[3]
Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.7	A
		PM	9.7	A
Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	11.1	B
		PM	14.3	B
Forrester Road at McCabe Road (U)	Minor Leg	AM	9.6	A
		PM	9.6	A
Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.6	A
		PM	8.6	A
Brockman Road at Kubler Road (U)	Minor Leg	AM	8.9	A
		PM	8.9	A
Drew Road at SR 98 (U)	Minor Leg	AM	8.7	A
		PM	8.9	A
Pulliam Road at SR 98 (U)	Minor Leg	AM	9.1	A
		PM	8.6	A

Source: LOS 2018.

Notes: [1] Intersection Control - (S) Signalized, (U) Un-signalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service. Minor Leg: approach LOS of minor/lesser roadway.
All: combined LOS for all approaches.

Under Near-Term (Year 2019) Conditions, the Project study area intersections were calculated to operate at LOS B or better. All intersections are operating below the LOS C standard with **less than significant impacts** under Near-Term (Year 2019) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Roadway and State Route Segment LOS

Table 4.3-15 summarizes roadway segment LOS for Near-Term (Year 2019) conditions. As shown, all segments would operate above LOS C. Specifically, all segments would operate at LOS A with the exception of the segment of Forrester Road from I-8 to McCabe Road and both segments along SR 98 (Drew Road to Pulliam Road and Pulliam Road to Brockman Road) which would all operate at LOS B. Because, all roadway segments would operate above the LOS C standard, **less than significant impacts** would occur under Near-Term (Year 2019) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-15
NEAR-TERM (YEAR 2019) ROADWAY AND STATE ROUTE SEGMENT LOS

Roadway Segment	Classification (as built)	Year 2019				
		Daily Volume	# of Lanes	LOS C Capacity	V/C	LOS
Brockman Road						
McCabe Road to Kubler Road	Major (2U)	515	2	7,100	0.07	A
Forrester Road						
I-8 to McCabe Road	Prime (2U)	2,048	2	7,100	0.29	B
Kubler Road						
Brockman Road to Ferrell Road	Minor (2U)	67	2	7,100	0.01	A
McCabe Road						
Forrester Road to LaBrucherie Road	Major (2U)	765	2	7,100	0.11	A
Pulliam Road						
Kubler Road to SR 98	Minor (2U)	30	2	7,100	0.00	A
SR 98						
Drew Road to Pulliam Road	State Highway (2U)	2,165	2	7,100	0.30	B
Pulliam Road to Brockman Road	State Highway (2U)	2,165	2	7,100	0.30	B

Source: LOS 2018.

Notes: Classification based on January 29, 2008 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway. Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.

Freeway Segment LOS

Table 4.3-16 summarizes Near-Term (Year 2019) freeway segment LOS. As shown, the freeway segments were calculated to operate above LOS C. I-8 from Drew Road to Forrester Road would operate at LOS B in the PM peak hour in the westbound direction. Likewise, the segment of I-8 from Forrester Road to Imperial Avenue would operation at LOS B in both the AM and PM peak hour in the westbound direction. All other freeway segments would operate at LOS A during both the AM and PM peak Hours in both the eastbound and westbound directions. Because, all freeway segments would operate above the LOS C standard, **less than significant impacts** would occur under Near-Term (Year 2019) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-16
NEAR-TERM (YEAR 2019) FREEWAY SEGMENT LOS

Freeway Segment	I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2019)								
ADT	14,500				17,800			
Peak Hour	AM		PM		AM		PM	
Directions	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,069	1,172	1,346	1,369	1,364	1,496	1,718	1,748
V/C	0.227	0.249	0.286	0.291	0.290	0.318	0.366	0.372
LOS	A	A	A	A	A	B	B	B

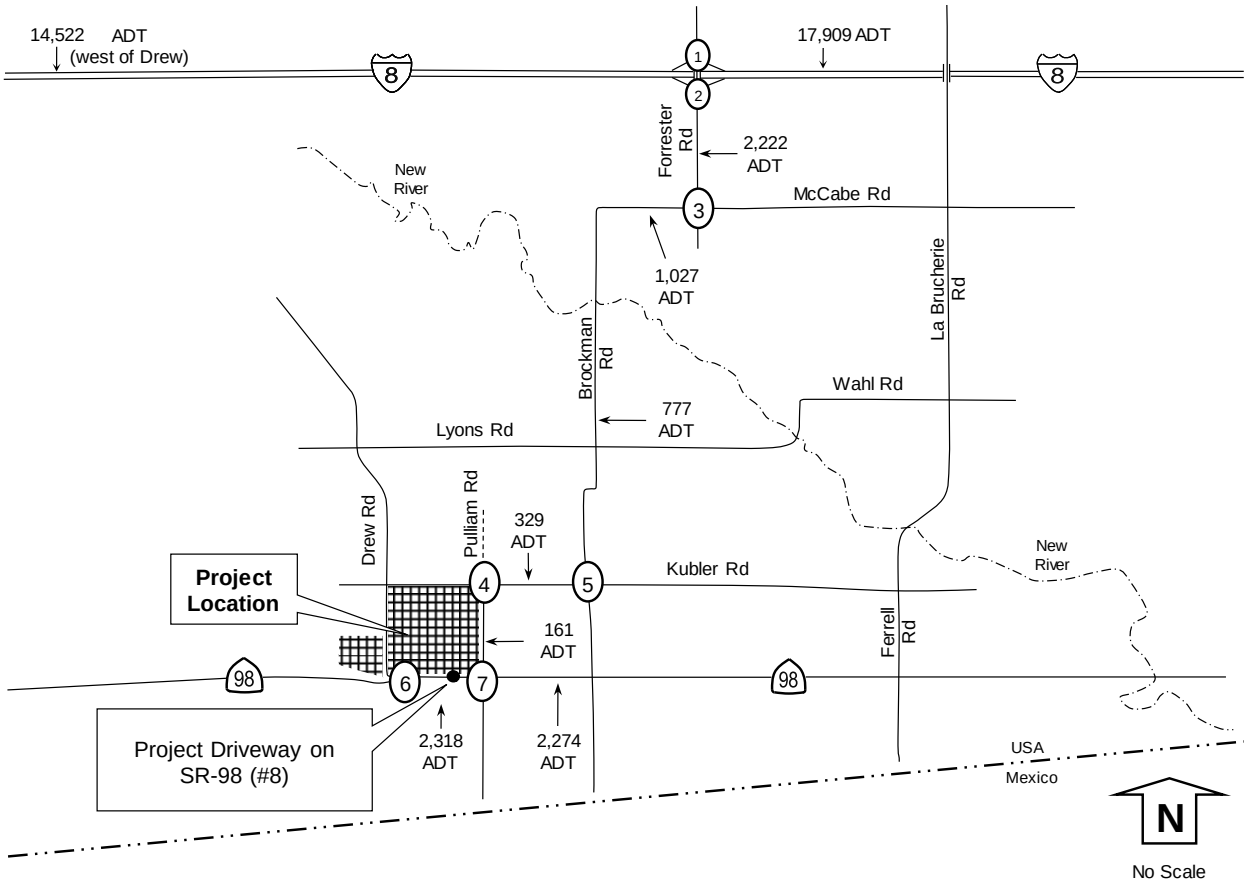
Source: LOS 2018.

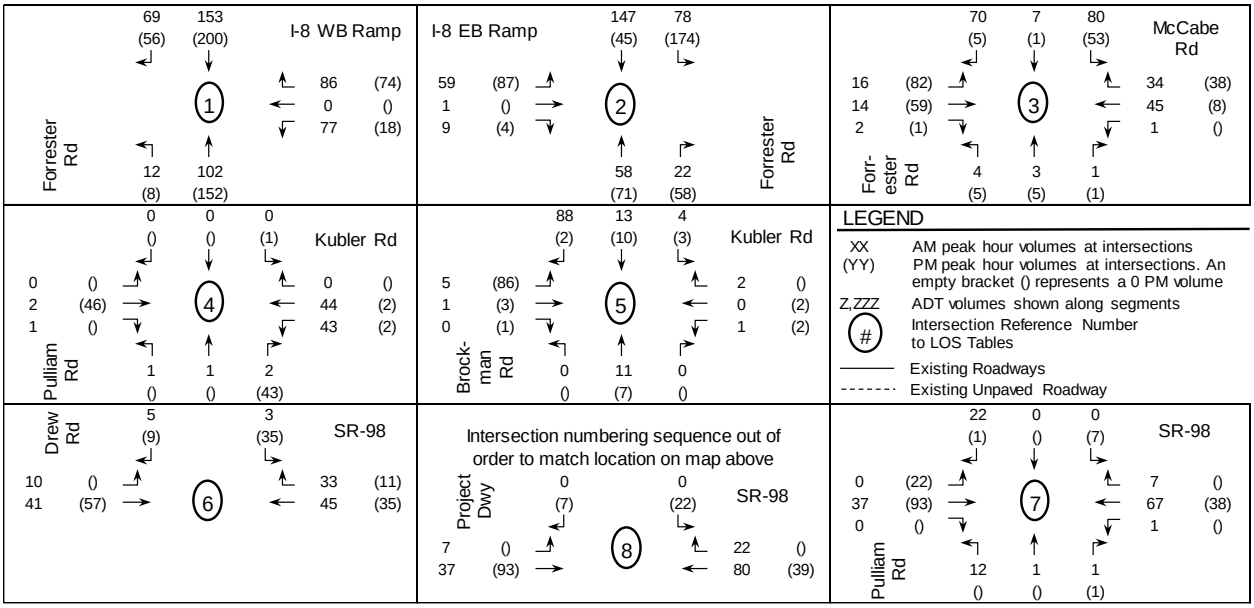
Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] Latest K factor from Caltrans (based on 2015 report), which is the percentage of Annual Average Day Traffic (AADT) in both directions.
[3] Latest D factor from Caltrans (based on 2015 report), which when multiplied by K and ADT will provide peak hour volume.
[4] Latest truck factor from Caltrans (based on 2015 report).

Under Near-Term (Year 2019) conditions, the Project study area intersections, roadways, State Route and freeway segments were calculated to operate at LOS B or better.

Near-Term (Year 2019) With Project Construction Conditions

This section discusses the addition of Project construction traffic in combination with Near-Term (Year 2019) conditions for the anticipated construction peak. **Figure 4.3-8** depicts Near-Term (Year 2019) With Project Construction traffic volumes. Intersection, roadway, State Route and freeway segment LOS are shown in **Table 4.3-17, Table 4.3-18** and **Table 4.3-19**. (Intersection LOS calculations are included in Appendix Q of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).





Source: LOS 2018.

FIGURE 4.3-8
NEAR-TERM (YEAR 2019) WITH PROJECT CONSTRUCTION VOLUMES

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Intersection LOS

Table 4.3-17 summarizes Near-Term (Year 2016) intersection LOS compared to Near-Term (Year 2019) With Project construction traffic. (Intersection LOS calculations are included in Appendix M of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).

TABLE 4.3-17
NEAR-TERM (YEAR 2019) WITHOUT AND WITH PROJECT CONSTRUCTION INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2019)		(Year 2019) With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	9.7	A	10.2	B	0.5	None
		PM	9.7	A	9.9	A	0.2	None
2) Forrester Road at I-8 EB Ramp(U)	Minor Leg	AM	11.1	B	11.8	B	0.7	None
		PM	14.3	B	15.2	C	0.9	None
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	8.6	A	9.9	A	0.3	None
		PM	8.6	A	11.0	B	1.4	None
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.9	A	9.0	A	0.4	None
		PM	8.9	A	9.2	A	0.6	None
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	8.7	A	9.1	A	0.2	None
		PM	8.9	A	9.1	A	0.2	None
6) Drew Road at SR 98 (U)	Minor Leg	AM	9.1	A	8.9	A	0.2	None
		PM	8.6	A	9.1	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	DNE	A	9.4	A	0.3	None
		PM	DNE	A	8.8	A	0.2	None
8) SR 98 at Project West Driveway (U)	Minor Leg	AM	DNE	NA	1.2	A	NA	None
		PM	DNE	NA	9.2	A	NA	None

Source: LOS 2018. DNE: Does Not Exist NA: Not Applicable.

Notes: [1] Intersection Control - (S) Signalized, (U) Un-signalized.

[2] Delay - HCM Average Control Delay in seconds.

[3] LOS: Level of Service. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.

[4] Delta is the increase in delay from Project.

[5] Type of impact: none, direct, or cumulative.

As shown, under Near-Term (Year 2019) With Project Conditions, all Project study area intersections are calculated to operate at LOS B or better with one exception. The intersection of Forrester Road at the I-8 eastbound ramp would operate at LOS C in the PM peak hour with project traffic would decline from LOS A to LOS B: Forrester Road at I-8 westbound in the AM Peak Hour and Forrester Road at McCabe Road in the PM Peak hour. No significant impacts to Project study area intersections were calculated due to the addition of Project construction traffic to existing traffic under Near-Term (Year 2019) conditions. Moreover, the increases in traffic resulting from construction of the proposed Project would not exceed LOS standards. Therefore, **less than significant** impacts to Project study area intersections would result under Near-Term (Year 2019) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Roadway and State Route Segment LOS

Table 4.3-18 summarizes roadway and State Route segment LOS for Near-Term (Year 2019) With and Without Project Construction. As shown, all segments would continue to operate above LOS C (at LOS A or LOS B). No change in LOS would occur for any segment with the addition of Near-Term (Year 2019) Project construction traffic. Therefore, **less than significant** impacts to Project study area roadway segments would result under Near-Term (Year 2019) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

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TABLE 4.3-18
NEAR-TERM (YEAR 2019) WITHOUT AND WITH PROJECT CONSTRUCTION ROADWAY AND STATE ROUTE SEGMENT LOS

Segment	Classification (as built)	Daily Volume	LOS C Capacity	V/C	LOS	Project Daily Volume	Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact?
Brockman Road												
McCabe Road to Kubler Road	Major (2U)	515	7,100	0.07	A	262	777	7,100	0.11	A	0.04	None
Forrester Road												
I-8 to McCabe Road	Prime (2U)	2,048	7,100	0.29	B	174	2,222	7,100	0.31	B	0.02	None
Kubler Road												
Brockman Road to Ferrell Road	Minor (2U)	67	7,100	0.01	A	262	329	7,100	0.05	A	0.04	None
McCabe Road												
Brockman Road to Forrester Road	Major (2U)	765	7,100	0.11	A	262	1,027	7,100	0.14	A	0.04	
Pulliam Road												
Kubler Road to SR 98	Minor (2U)	30	7,100	0.00	A	131	161	7,100	0.02	A	0.02	None
SR 98												
Drew Road to Pulliam Road	State Highway (2U)	2,165	7,100	0.30	B	153	2,318	7,100	0.33	B	0.02	None
Pulliam Road to Brockman Road	State Highway (2U)	2,165	7,100	0.30	B	109	2,274	7,100	0.32	B	0.02	None

Source: LOS 2018.

Notes: Classification based on January 29, 2008 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway. Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

Freeway Segment LOS

Table 4.3-19 summarizes freeway segment LOS under Near-Term (Year 2019) With and Without Project Construction. As shown, both freeway segments were calculated to operate above LOS C (at LOS A and LOS B). I-8 from Dunaway Road to Drew Road would continue to operate at LOS A in the AM and PM Peak Hour in both directions (eastbound and westbound); I-8 from Forrester Road to Imperial Avenue would continue to operate at LOS A during the AM and PM peak hour in the eastbound direction and LOS B in the AM and PM peak hour in the westbound direction and the AM Peak Hour in the westbound direction. None of the increases in traffic resulting from Project construction would exceed V/C ratios or LOS standards. Therefore, **less than significant** impacts to Project study area freeway segments would occur under Near-Term (Year 2019) With Project Construction under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-19
NEAR-TERM (YEAR 2019) WITHOUT AND WITH PROJECT CONSTRUCTION FREEWAY SEGMENT LOS

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Forrester Road to Imperial Avenue			
Forecasted Near-Term (Year 2019) Without Project								
ADT	14,500				17,800			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,069	1,172	1,346	1,369	1,364	1,496	1,718	1,748
V/C	0.227	0.249	0.286	0.291	0.290	0.318	0.366	0.372
LOS	A	A	A	A	A	B	B	B
Project Peak Hour Volume	7	0	0	7	1	36	36	1
Near-Term (Year 2019) With Project								
Peak Hour Volume	1,076	1,172	1,346	1,376	1,365	1,532	1,754	1,749
V/C	0.229	0.249	0.286	0.293	0.291	0.326	0.373	0.372
LOS	A	A	A	A	A	B	B	B
Increase in V/C	0.001	0.000	0.000	0.001	0.000	.0008	0.008	0.000
Impact	None	None	None	None	None	None	None	None

Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from Caltrans' Guide for the Preparation of Traffic Impact Studies, December 2002.

[2] Latest K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.

[3] Latest D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.

[4] Latest truck factor from Caltrans (based on 2017 report).

Impact? = Direct, Cumulative, or None.

Overall, under Near-Term (Year 2019) With and Without Project, the Project study area intersections, roadway, State Route and freeway segments were calculated to operate at LOS C or better. Thus, **less than significant** impacts were calculated with the addition of Project construction traffic to existing traffic volumes under Near-Term (Year 2019) With Project construction under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Conflict with Applicable Plan – Long-Term (Year 2027) Conditions

Impact 4.3.3 Implementation of the proposed Project would add traffic to existing traffic volumes on Project study area intersections, roadway segments and freeway segments during Long-Term (Year 2019) Project construction. The additional traffic would not result in an exceedance of LOS C. Therefore, conflicts with the Imperial County General Plan Circulation and Scenic Highways Element are considered **less than significant** under Mid-Term (Year 2027) With Project conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Long-Term (Year 2027)

This discussion addresses Long-Term Year 2027 conditions if the entire Project (in 18 months) is constructed at the end of the period when construction must commence per the CUP. The Year 2027 background volumes are based on increasing the existing year 2017 volumes by an annual growth rate of 1.8% (19.5% total due to compounding growth) as described in the Near-Term Year 2019 Conditions' Section. Year 2027 traffic volumes are shown in **Figure 4.3-9**. Intersection, roadway, State Route and freeway segment LOS are shown in **Tables 4.3-20, Table 4.3-21** and **Table 4.3-225**. Intersection LOS calculations are included in Appendix S of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

Intersection LOS

Table 4.3-20 summarizes Long-Term (Year 2027) intersection LOS. (Intersection LOS calculations are included in Appendix S of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).

TABLE 4.3-20
LONG-TERM (YEAR 2027) INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2027) Delay[2]	(Year 2027) LOS[3]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	10.0	B
		PM	10.0	B
2) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	11.8	B
		PM	16.4	C
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.8	A
		PM	9.7	A
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.6	A
		PM	8.6	A
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	8.9	A
		PM	9.0	A
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.7	A
		PM	9.0	A
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.1	A
		PM	8.7	A

Source: LOS 2018. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.
Notes: [1] Intersection Control - (S) Signalized, (U) Un-signalized. [2] Delay - HCM Average Control Delay in seconds. [3] LOS: Level of Service.

Under Long-Term (Year 2027) Conditions, the Project study area intersections were calculated to operate at LOS C or better. One intersection (Forrester Road at I-8, eastbound ramp) would operate at LOS C in the PM peak hour. This same intersection operates at LOS B in the AM Peak hour. One intersection (Forrester Road at I-8, westbound ramp) operates at LOS B in both the AM and PM peak hours while all others will operate at LOS A. All of the intersections will operate with **less than significant impacts** to LOS under Long-Term (Year 2019) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

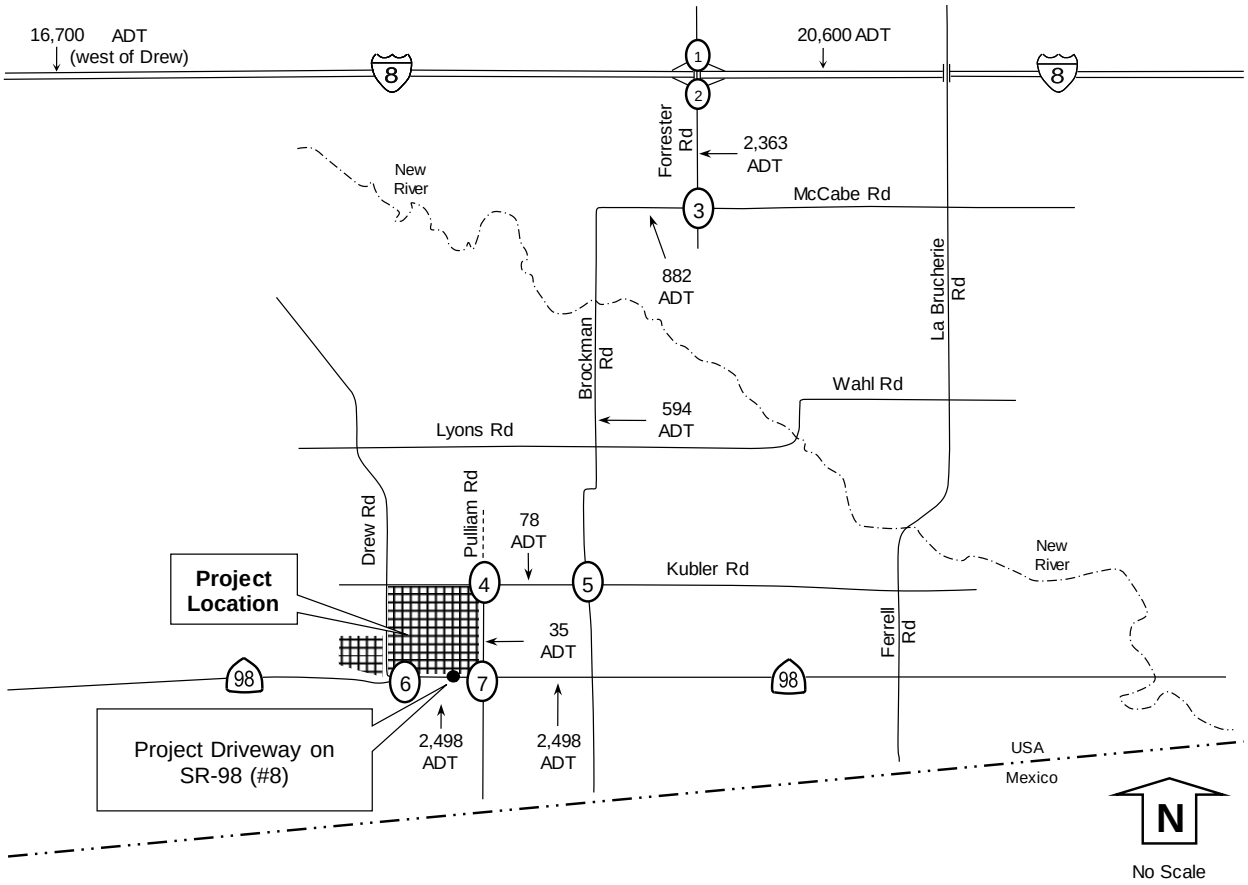
Roadway and State Route Segment LOS

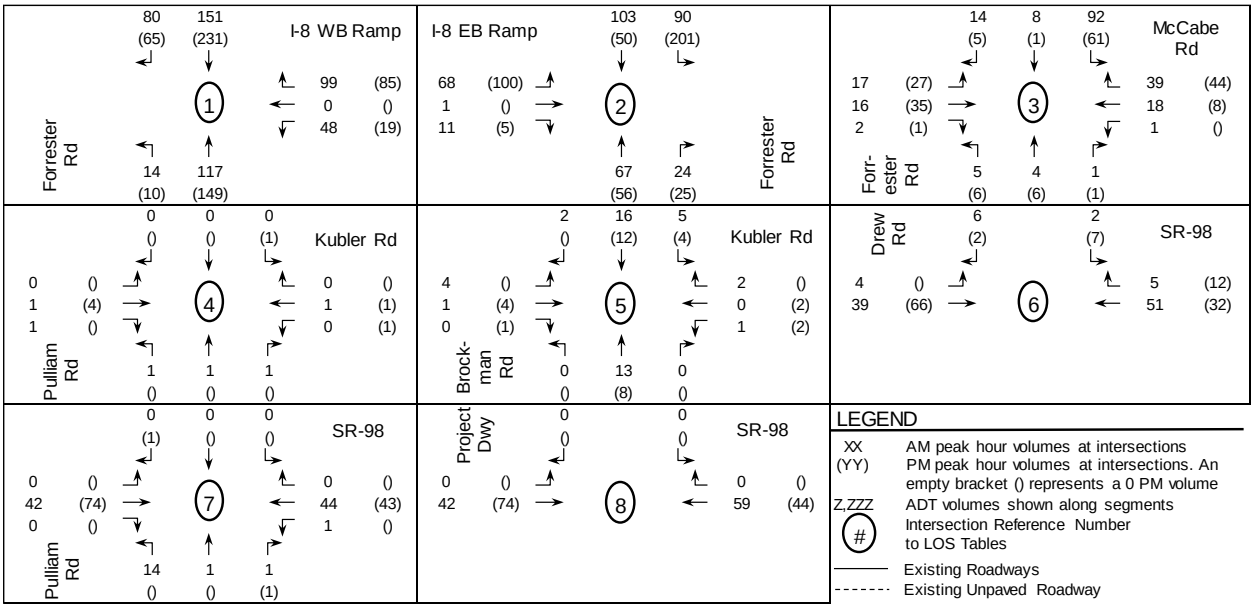
Table 4.3-21 summarizes roadway segment LOS for Long-Term (Year 2027) conditions. As shown, all segments would operate above LOS C (at LOS A or LOS B). Specifically, all segments would operate at LOS A with the exception of the segment along Forrester Road from I-8 to McCabe Road and both segments of SR 98 which would all operate at LOS B. Because, all roadway and State Route segments would operate above the LOS C standard, **less than significant impacts** would occur under Long-Term (Year 2027) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-21
LONG-TERM (YEAR 2027) ROADWAY AND STATE ROUTE SEGMENT LOS

Segment	Classification (as built)	Daily Volume	# of Lanes	LOS C Capacity	V/C	LOS
Brockman Road						
McCabe Road to Kubler Road	Major (2U)	594	2	7,100	0.08	A
Forrester Road						
I-8 to McCabe Road	Prime (2U)	2,363	2	7,100	0.33	B
Kubler Road						
Brockman Road to Ferrell Road	Minor (2U)	78	2	7,100	0.01	A
McCabe Road						
Brockman Road to Forrester Road	Major (2U)	882	2	7,100	0.12	A
Pulliam Road						
Kubler Road to SR 98	Minor (2U)	35	2	7,100	0.00	A
SR 98						
Drew Road to Pulliam Road	State Highway (2U)	2,498	2	7,100	0.35	B
Pulliam Road to Brockman Road	State Highway (2U)	2,498	2	7,100	0.35	B

Source: LOS 2018.
Notes: Classification based on January 29, 2008 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway.
Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.





Source: LOS 2018.

FIGURE 4.3-9
LONG-TERM (YEAR 2027) TRAFFIC VOLUMES

Freeway Segment LOS

Table 4.3-22 summarizes Long-Term (Year 2027) freeway segment LOS. As shown, the freeway segments were calculated to operate above LOS C (LOS A or LOS B). I-8 from Drew Road to Forrester Road would operate at LOS B in the PM peak hour in both the eastbound and westbound direction. Likewise, I-8 from Forrester Road to Imperial Avenue would operation at LOS B in both the AM and PM peak hour in both the eastbound and the westbound direction. The segment of I-8 from Dunaway Road to Drew Road would operate at LOS A. Because, all freeway segments would operate above the LOS C standard, **less than significant impacts** would occur under Long-Term (Year 2027) conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-22
LONG-TERM (YEAR 2027) FREEWAY SEGMENT LOS

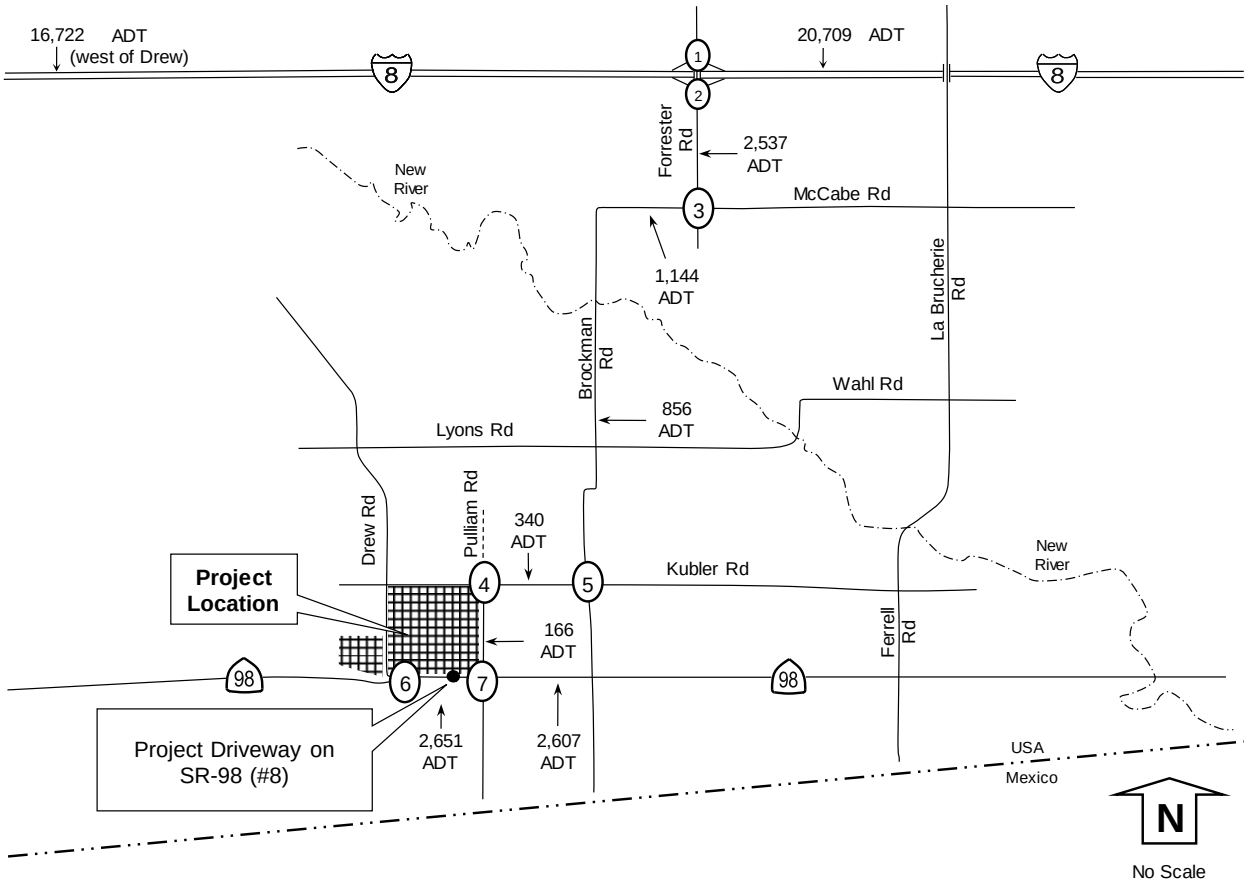
Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2027)								
ADT	16,700				20,600			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,231	1,349	1,550	1,1576	1,579	1,731	1,989	2,022
V/C	0.262	0.287	0.330	0.335	0.336	0.368	0.412	0.430
LOS	A	A	B	B	B	B	B	B

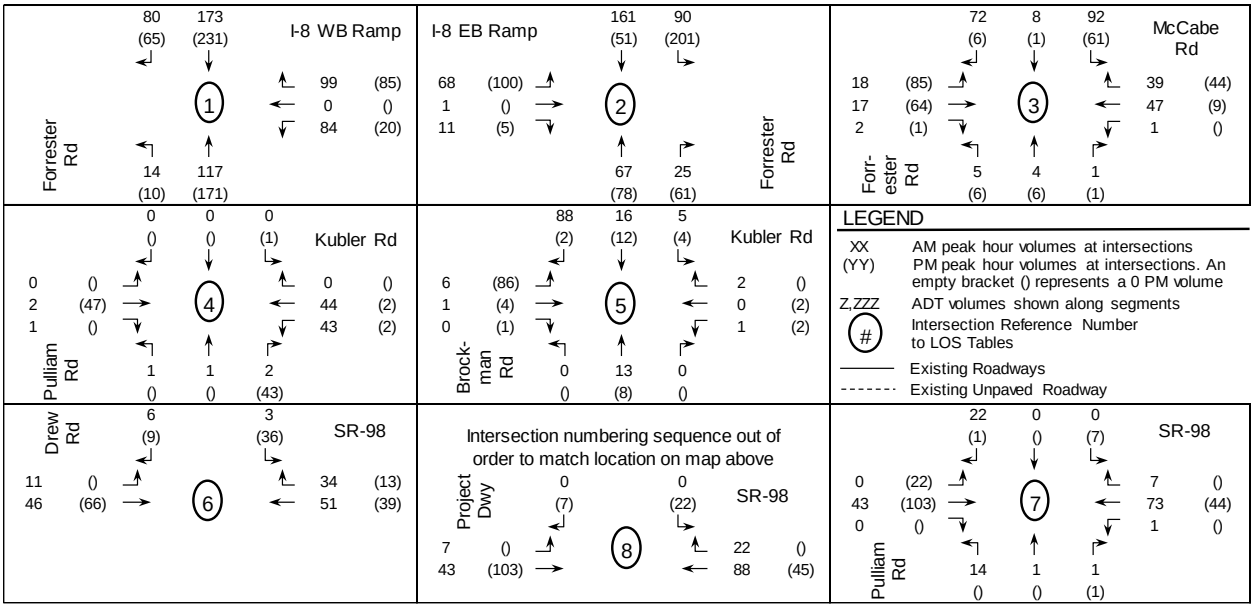
Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] Latest K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.
[3] D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.
[2] Truck factor from Caltrans (based on 2015 report).
Impact? = Direct, Cumulative, or None.

Long-Term (Year 2027) With Project Construction Conditions

This section documents the addition of Project construction traffic onto Long-Term (Year 2027) conditions. **Figure 4.3-10** depicts Long-Term (Year 2027) With Project Construction traffic volumes. Intersection, segment, and freeway LOS are shown in **Table 4.3-23, Table 4.3-24** and **Table 4.3-25**.





Source: LOS 2018.

FIGURE 4.3-10
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION VOLUMES

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TABLE 4.3-23
LONG-TERM YEAR 2027 WITH PROJECT CONSTRUCTION INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2027)		(Year 2027) With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1)Forrester Road at I-8 WB (U)	Minor Leg	AM	10.0	B	10.6	B	0.6	None
		PM	10.0	B	10.2	B	0.2	None
2) Forrester Road at I-8 EB (U)	Minor Leg	AM	11.8	B	12.6	B	0.8	None
		PM	16.4	C	17.5	C	1.1	None
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	9.8	A	10.2	B	0.4	None
		PM	9.7	A	11.3	B	1.6	None
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.6	A	9.0	A	0.4	None
		PM	8.6	A	9.2	A	0.6	None
5) Brockman Rd at Kubler Rd (U)	Minor Leg	AM	8.9	A	9.1	A	0.2	None
		PM	9.0	A	9.1	A	0.1	None
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.7	A	8.9	A	0.2	None
		PM	9.0	A	9.2	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.1	A	9.5	A	0.4	None
		PM	8.7	A	8.8	A	0.1	None
8) SR 98 at Project West Driveway (U)	Minor Leg	AM	DNE	NA	1.0	A	NA	None
		PM	DNE	NA	9.3	A	NA	None

Source: LOS 2018. DNE: Does Not Exist; NA: Not Applicable
Notes: [1] Intersection Control - (S) Signalized, (U) Un-signalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.
[4] Delta is the increase in delay from project.
[5] Type of impact: none, direct, or cumulative.

As shown, under Long-Term (Year 2027) With Project Construction, all but one Project study area intersection is calculated to operate at LOS C or better. The intersection of Ferrell Road at I-8 eastbound would continue to operate at LOS C during the PM peak hour with Project traffic. The intersection of Forrester Road at McCabe Road would decline from LOS A to LOS B in both the AM and PM Peak Hour. No significant impacts to Project study area intersections were calculated due to the addition of construction traffic to existing traffic under Long-Term (Year 2027) conditions. Moreover, the increases in traffic resulting from construction of the proposed Project would not exceed LOS standards. Therefore, **less than significant impacts** to Project study area intersections would result under Long-Term (Year 2027) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Roadway and State Route Segment LOS

Table 4.3-27 summarizes roadway and State Route segment LOS for Long-Term (Year 2027) With and Without Project Construction. As shown, all segments would continue to operate above LOS C (at LOS A or LOS B). No change in LOS would occur for any segment with the addition of Long-Term (Year 2027) Project construction traffic. Therefore, **less than significant impacts** to Project study area roadway segments would occur under Long-Term (Year 2027) With Project Construction conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

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TABLE 4.3-24
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION ROADWAY AND STATE ROUTE SEGMENT LOS

Segment	Classification (as built)	(Year 2027)				Project Daily Volume	(Year 2027) With Project					
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Change in V/C	Impact?
Brockman Road												
McCabe Road to Kubler Road	Major (2U)	594	7,100	0.08	A	262	856	7,100	0.12	A	0.04	None
Forrester Road												
I-8 to McCabe Road	Prime (2U)	2,363	7,100	0.33	B	174	2,537	7,100	0.36	B	0.02	
Kubler Road												
Brockman Road to Ferrell Road	Minor (2U)	78	7,100	0.01	A	262	340	7,100	0.05	A	0.04	None
McCabe Road												
Brockman Road to Forrester Road	Major (2U)	882	7,100	.012	A	262	1,144	7,100	0.16	A	0.04	None
Pulliam Road												
Kubler Road to SR 98	Minor (2U)	35	7,100	0.00	A	131	166	7,100	0.02	A	0.02	
SR 98												
Drew Road to Pulliam Road	State Highway (SU)	2,498	7,100	0.35	B	153	2,651	7,100	0.37	B	0.02	None
Pulliam Road to Brockman Road	State Highway (SU)	2,498	7,100	0.35	B	109	2,607	7,100	0.37	B	0.02	None

Source: LOS 2018.

Notes: Classification based on the Imperial County General Plan, Circulation and Scenic Highways Element, January 29, 2008.
2U = 2-lane undivided roadway. Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

Freeway Segment LOS

Table 4.3-25 summarizes freeway segment LOS under Long-Term (Year 2027) With and Without Project Construction. As shown, both freeway segments were calculated to operate above LOS C (at LOS A and LOS B). In fact, no change in LOS would occur with the addition of Project construction traffic. Moreover, the increases in traffic resulting from Project construction would not exceed V/C ratios or LOS standards. Therefore, **less than significant impacts** to Project study area freeway segments would occur under Long-Term (Year 2027) With Project construction under both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.3-25
LONG-TERM (YEAR 2027) WITHOUT AND WITH PROJECT CONSTRUCTION FREEWAY SEGMENT LOS

Freeway Segment	I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2019) Without Project								
ADT	16,700				20,600			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,231	1,349	1,550	1,583	1,580	1,767	2,025	2,023
V/C	0.262	0.287	0.330	0.335	0.336	0.368	0.423	0.430
LOS	A	A	B	B	B	B	B	B
Project Peak Hour Volume 2019 With Project								
Peak Hour Volume	1,238	1,349	1,550	1,583	1,580	1,767	2,025	2,023
V/C	0.263	0.287	0.330	0.337	0.336	0.376	0.431	0.431
LOS	A	A	B	B	B	B	B	B
Increase in V/C	0.001	0.000	0.000	0.001	0.000	0.008	0.008	0.000
Impact	None	None	None	None	None	None	None	None

Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.
[3] D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.
[4] Truck factor from Caltrans (based on 2017 report).
Impact? = Direct, Cumulative, or None.

Overall, under Long-Term (Year 2027) With and Without Project construction, the Project study area intersections, roadway, State Route and freeway segments were calculated to operate at LOS C or better. Thus, **less than significant impacts** were calculated with the addition of Project construction traffic to existing traffic volumes under Long-Term (Year 2027) With Project construction under both the Full Build-Out Scenario and Phased CUP Scenario.

Increase Hazards Due to a Geometric Design Feature – Driveways and Travel Speeds

Impact 4.3.4 Implementation of the proposed Project would not require provision of left-turn lanes at Project driveways to allow access to any of the CUPs. No geometric design features are proposed that would result in hazards. Likewise, area roadways are currently traveled by farm equipment similar in size and speed to construction equipment necessary for the proposed Project. Therefore, impacts resulting from an increase in hazards due to a geometric design feature or an incompatible use are considered **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Multiple County maintained roads provide access throughout the Project Area. These roads are currently traveled by farm equipment used to maintain and harvest crops currently grown on the solar field site parcels and surrounding agricultural lands. Farm equipment and construction equipment are of similar size and travel at similar speeds. Thus, the introduction of construction equipment onto area roadways would not pose a hazard or be incompatible with existing uses. The Project does not propose to use unpaved County roads for access. No left turn lanes are warranted during Project construction and none of the access points present a hazard to traffic along adjacent roadways. Therefore, **less than significant impacts** are identified with regard to hazards due to a geometric design feature or incompatible use during construction of both the Full Build-Out Scenario and Phased CUP Scenario.

Operation

During Project operation, access to each CUP will be controlled and gates will be installed at the access roads. The parking lot(s) will meet the requirements of the Imperial County Land Use Ordinance Division 3 Chapter 1 90302.02 Development of Standard (e). All driveways leading to the O&M building(s) will be surfaced with a minimum of three (3) inches of asphaltic concrete paving or similar material.

Incorporation of these access points and paving features would not present a hazard. Therefore, less than significant impacts are identified with regard to hazards due to a geometric design feature during operation of both the Full Build-Out Scenario and Phased CUP Scenario.

Decommissioning

Access points to each CUP used during decommissioning are anticipated to be the same as those used during construction. Similar equipment would be involved during decommissioning as was used during construction. However, traffic volumes will likely be less and not as intensive as occurred during construction. Therefore, **less than** significant impacts are identified with regard to hazards due to a geometric design feature during decommissioning of both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction

Impact 4.3.5 Construction of the proposed Project will require movement of heavy equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The condition of the roadways may deteriorate rapidly based on the volume and weight of construction traffic. Therefore, impacts to County-maintained roadways are considered **potentially significant** under both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning/Reclamation

Damage to County-maintained roadways would occur during construction, require repair prior to operation and be re-assessed following decommissioning. Once the project is reclaimed, no damage beyond what is currently occurring in association with existing farming operations is anticipated.

County roadways within the Project Area should be designed in accordance with the specifications outlined under item "II H. STREET STRUCTURAL SECTION" of the *Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvement Drainage and Grading Plans Within Imperial County* (Imperial County 2008d). As such, the roadways may not currently be designed to accommodate high volumes of construction traffic involving heavy equipment and trucks.

According to the Applicant, the construction workforce is expected to start in 2017 and reach the highest concentration in spring of 2019 (for the near-term scenario) with an average of 250 workers. Construction activities are expected to require approximately 18 months.

The worker and construction truck traffic is calculated at 436 ADT with 144 AM peak hour trips (141 inbound and 6 outbound) and 141 PM peak hour trips (3 inbound and 144 outbound). These trips would be generated along designated Project haul routes during Project construction and would avoid unpaved County roads.

As construction of the Project includes site preparation, foundation construction, delivery of equipment and supplies, erection of major equipment and structures, installation of control systems, and start-up/testing, many of the 436 ADT would involve movement of heavy equipment and supplies including large trucks carrying oversized loads. Trucks loaded with equipment and supplies are extremely heavy. The weight of these vehicles combined with elevated volumes of trips generated during construction would accelerate the deterioration of County-maintained of roadway surfaces along designated Project haul routes. The amount of degradation associated with construction traffic is contingent upon both the design of the pavement (type and thickness) as well as the existing condition of the roadway surface. Existing County-maintained roadways in the Project vicinity are not designed with a pavement thickness sufficient to withstand a high volume of heavy-duty trucks and equipment trips. Cracks, ruts and pot-holes will develop as a result of high volumes of heavy vehicles. This damage represents a potential hazard to motorists as well as an economic burden to the County associated with roadway repairs. However, this analysis conservatively concludes that the Project's impacts to the safety of county roads is a **potentially significant impact** under both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

MM 4.3.5a All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)

The Project contractor shall utilize SR 98 for all equipment deliveries. Employee and vendor routes to each CUP shall be limited to SR 98, Drew Road, Pulliam Road and Kubler Road, unless improvements are made to other county roads leading to individual CUP sites in advance of development of each CUP.

Timing/Implementation: Prior to the issuance of grading permit/Project contractor.
Enforcement/Monitoring: Imperial County Planning and Development Services Department, Imperial County Public Works Department.

MM 4.3.5b All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)

The CUP owner(s) shall limit the Project's construction traffic to paved County roadways. In the event the Applicant's construction traffic requires the use of unpaved County roadways, the Applicant shall mitigate those County unpaved roadways in accordance with ICAPCD Rule 805.

In addition to complying with Rule 805, if 50 vehicle trips per day (VPD) (cumulative from public and project use) are triggered by the project on any single County unpaved roadway, the Applicant shall provide for the future maintenance cost of the affected roadway for the full term of the CUP which triggered the increase beyond the 50 VPD threshold.

Timing/Implementation: Prior to the issuance of grading permit/CUP owner(s).
Enforcement/Monitoring: Imperial County Planning and Development Services Department, Imperial County Public Works Department.

MM 4.3.5c All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)

As each CUP may be constructed individually and independently, the CUP owner(s) shall improve the roads per the approved haul route study. If the CUP owner(s) has already improved the roads that will be utilized by the next CUP to start construction, then no new road improvements are required.

Timing/Implementation: Prior to the issuance of grading permit/ CUP owner(s).
Enforcement/Monitoring: Imperial County Planning and Development Services Department, Imperial County Public Works Department.

MM 4.3.5d All CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001)

Construction traffic shall prioritize ingress and egress from SR 98. In the event project construction traffic utilizes County roads, a fair share shall be paid per the approved haul route study, and the Developer will be required to repair any damages caused to County roads by construction traffic during construction and maintain them in safe conditions. The Imperial County Public Works Department/Road Commissioner shall have final authority as to the fair share percentage and the final payment amounts based on the final and approved access points in the project's grading and improvement plans. Fair share shall be paid in full prior to issuance of grading, building and encroachment permits.

Timing/Implementation: Prior to the issuance of grading, building and encroachment permits.
Enforcement/Monitoring: Imperial County Planning and Development Services Department, Imperial County Public Works Department/Road Commissioner.

MM 4.3.5e CUP#17-0031

Fair share payments shall be paidper the approved haul route study, as approved by Imperial County Public Works Department prior to issuance of grading, building and encroachment permits.

Timing/Implementation: *Prior to the issuance of grading, building and encroachment permits.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department, Imperial County Public Works Department/Road Commissioner.*

MM 4.3.5f CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001

Prior to issuance of final Certificate of Occupancy, CUP owner shall be responsible for repairing any damage caused to County roads and bridges it utilizes via improvements as determined by the County Road Commissioner based on the final and approved access points in the Project's grading and improvement plans.

Timing/Implementation: *Prior to the issuance of grading, building and encroachment permits.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department, Imperial County Public Works Department/Road Commissioner.*

MM 4.3.5g CUP#17-0033

Fair share payments shall be paid for 2,800 feet of asphalt paving required on Pulliam Road north of SR 98 or as approved by ICDPW prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans.

Fair share payments shall be paid for 1,600 feet of asphalt patching required on Kubler Road west of Pulliam Road relating to construction haul route, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy.

Timing/Implementation: *Prior to the issuance of grading, building and encroachment permits.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department, Imperial County Public Works Department/Road Commissioner.*

MM 4.3.5h CUP#17-0034

Install up to 2,400 feet of asphalt paving required on Kubler Road west of Pulliam Road relating to the construction haul route and 2,400 feet of Drew Road, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans, unless already condition has already been satisfied as part of CUP#17-0033.

Timing/Implementation: *Prior to the issuance of grading, building and encroachment permits.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department, Imperial County Public Works Department/Road Commissioner.*

MM 4.3.5i CUP#17-0035 and CUP#18-0001

Install up to 2,400 feet of asphalt paving required on Drew Road relating to construction haul route, or as approved by Imperial County Public Works Department prior to issuance of Final Certificate of Occupancy based on the final and approved access points in the Project's grading and improvement plans.

Timing/Implementation: *Prior to the issuance of grading, building and encroachment permits.*

Enforcement/Monitoring: *Imperial County Public Works Department.*

Significance After Mitigation

Implementation of mitigation measure MM 4.3.5a would limit equipment deliveries, employee and vendor traffic to specific routes unless improvements are made to other County Roads prior to development of each CUP. Mitigation measure MM 4.3.5b requires that the Project's construction traffic use paved roads and avoid unpaved County roadways. If public unpaved roads are used for construction, then MM 4.3.5b will stipulate the mitigation utilizing acceptable best management practices in accordance with ICAPCD Rule 805. Furthermore, if the Proponent's VPD increase beyond a cumulative total of 50 trips per day, the Proponent will be responsible for the cost of future maintenance of impacted public unpaved roadways. Mitigation measure 4.3.5c requires the Applicant to improve roads to each CUP. Mitigation measure MM 4.3.5d applies to all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) and requires fair share payments for County roads used during construction as determined by the Imperial County Public Works Department/ Road Commissioner. Mitigation measure MM 4.3.5e requires fair share payment for 1,300 feet of asphalt paving required on Drew Road immediately north of SR 98 specific to CUP#17-0031. Mitigation measure MM 4.3.5f requires the owners of CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035 and CUP#18-0001 to repair any damaged caused to County roads and bridges. Mitigation measure MM 4.3.5g requires the owner of CUP #17-0033 to pay fair share payments for 2,800 feet of asphalt paving on Pulliam Road north of SR 98 and 1,600 feet of asphalt patching on Kubler Road west of Pulliam Road. Mitigation measure MM 4.3.5h requires the owner of CUP #17-0034 to install up to 2,400 feet of asphalt paving required on Kubler Road west of Pulliam Road relating to the construction haul route and 2,400 feet of Drew Road. Lastly, mitigation measure MM 4.3.5i requires installation up to 2,400 feet of asphalt paving on Drew Road relating to the construction route. Following implementation of these measures, impacts associated with damage to County-maintained roadways resulting from Project construction would be reduced to **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.

Emergency Access

Impact 4.3.6 The proposed Project includes emergency access points off of Kubler Road, Drew Road, Pulliam Road. Access of SR 98 is to a frontage road which connects with an emergency access. Final design will be review by the Imperial County Fire Department and Imperial County Sheriff's Office prior to approval. Therefore, impacts associated with adequate emergency access are **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.

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FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning

Project access would be installed during construction, maintained during operation and abandoned as part of decommissioning/reclamation.

Table 4.3-26 summarizes the proposed access points for each CUP and **Figure 4.3-11** depicts the location of the proposed access/driveways. As shown, driveways are accessed directly off of County roads with the exception of one driveway off of SR 98 along the southern boundary of the site. This driveway would provide access to a frontage road paralleling SR 98. This frontage road would connect to the one primary access and 1 emergency gate along the southern boundary of both CUP 17-0031 and CUP 17-0032.

TABLE 4.3-26
PROJECT ACCESS POINTS/DRIVEWAYS

CUP	Road	Number of Driveways
17-0031	SR 98	1 Driveway to frontage road to 1 primary and 1 emergency gate
17-0032	SR 98	1 Driveway to frontage road to 1 primary and 1 emergency gate
17-0033	Kubler Road on the north Pulliam Road on the East	1 Primary Access 1 Emergency Access/1 Primary Access
17-0034	Kubler Road on the north	1 Emergency Access
17-0035	Drew Road on the east	1 Primary Access/1 Emergency Access
18-0001	Drew Road on the east	

Source: See Figure 4.11-3

The Project does not propose to use unpaved County roads to access the solar field site parcels/CUP Areas. Access to components of the solar field site parcels will be controlled through security gates at access driveways as shown in **Figure 4.3-11**. Primary access driveways would be paved. Emergency (secondary) access driveways would be Class II base. For all CUPs (CUP#17-0031 thru CUP17#0035 and CUP#18-0001), the Applicant will provide on-site compacted dirt roads, and Class II base emergency access driveways with a 10-foot paved section adjacent to County's edge of pavement. If the emergency access point connects to a private frontage a 10-foot paved section will not be required. Both the Imperial County Fire Department and Imperial County Sheriff's Office would review the plans for adequate emergency access prior to issuance of building permits. The Imperial County Public Works Department will also review plans to ensure they are designed consistent with County design requirements. Therefore, impacts associated with a hazard due to a geometric design feature or incompatible use during construction of either the Full Build-Out Scenario or the Phased CUP Scenario are considered **less than significant** under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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Source: Drew Solar 2018.

FIGURE 4.3-11
PROJECT ACCESS POINTS/ DRIVEWAYS

4.3.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the cumulative setting for transportation and circulation is based on the roadways in the vicinity of the Project study area that may be affected by traffic generated by the Project and cumulative projects. Information on cumulative projects was obtained from, and confirmed by, the County of Imperial to be current as of November 2017 (**refer to Figure 3.0-1** in Chapter 3.0 for a graphical presentation of these projects). A County of Imperial map showing planned solar farm projects is included in Appendix K of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR. Please note that the the Le Conte Battery Energy Storage Facility has submitted a CUP Application in July 2018 and is anticipated to go before the Board of Supervisors in the Spring of 2019.

The cumulative list below describes the cumulative projects in the immediate area around the Project site (i.e. projects that are generally located south of I-8 and west of Clark Road). Some of the cumulative projects have completed technical studies including traffic generation information; however, several have not. For the projects that do not have detailed traffic generation information, an estimate was calculated based on traffic generation information for similar projects and are noted below with an asterisk "*". Traffic generation calculations and copies of the cumulative project descriptions, locations, traffic generation, and assignments are also included in Appendix L of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR. Information for each cumulative project is included below:

Table 4.3-27 summarizes information for each cumulative project including its construction status.

TABLE 4.3-27
TRAFFIC GENERATED BY CUMULATIVE PROJECTS

#	Project Name	Description	Traffic Generation
1	Big Rock Solar and Laurel Solar	Solar Facility	A PV solar facility capable of producing approximately 345 MWs of electricity generally located west of Drew Road and south of I-8.
2	Calexico 1-A	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.
3	Calexico 1-B	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.
4	Calexico II-A	Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located 6 miles west of the City of Calexico.
5	Campo Verde Battery Energy Storage System	Battery Storage	A 100 MW battery storage system for the Campo Verde Solar facility generally located west of Drew Road and south of I-8.

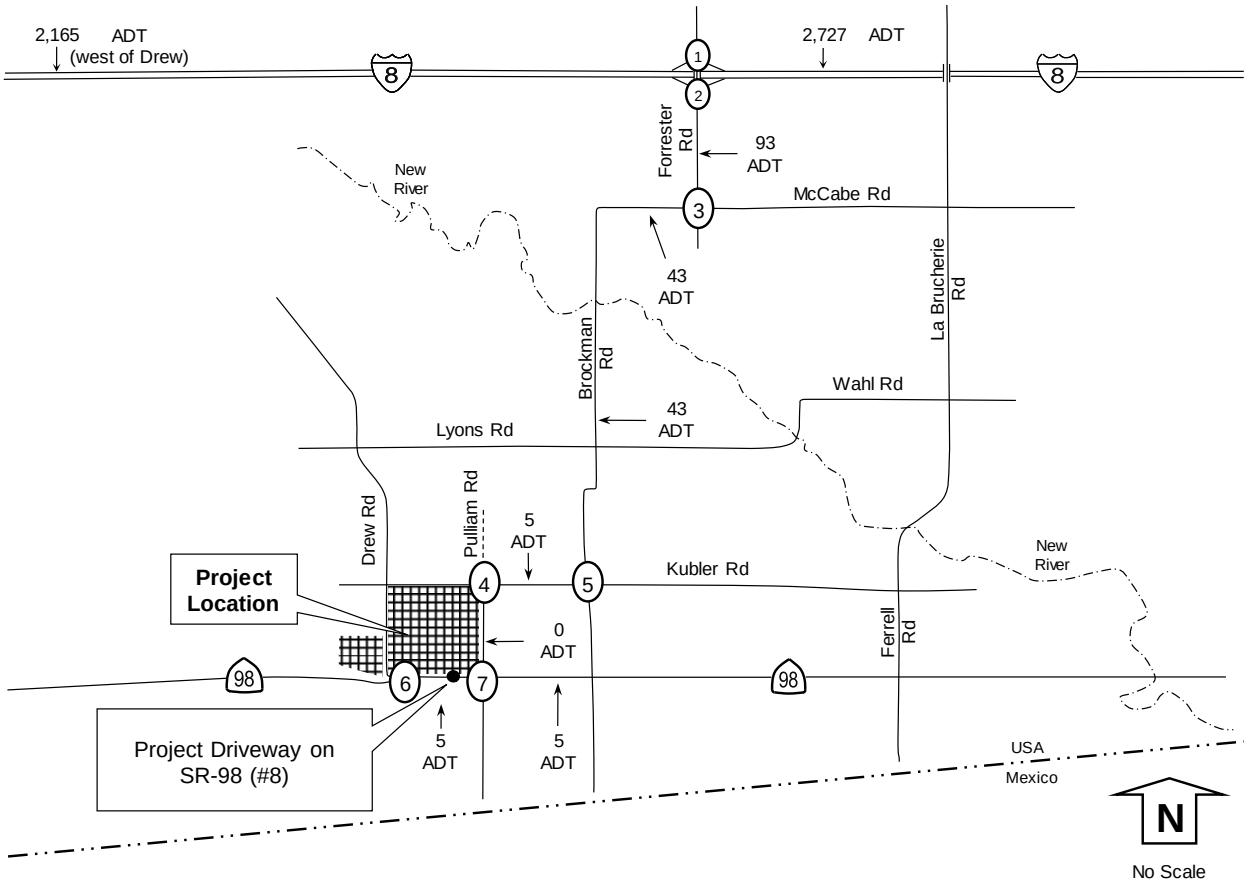
TABLE 4.3-27
TRAFFIC GENERATED BY CUMULATIVE PROJECTS

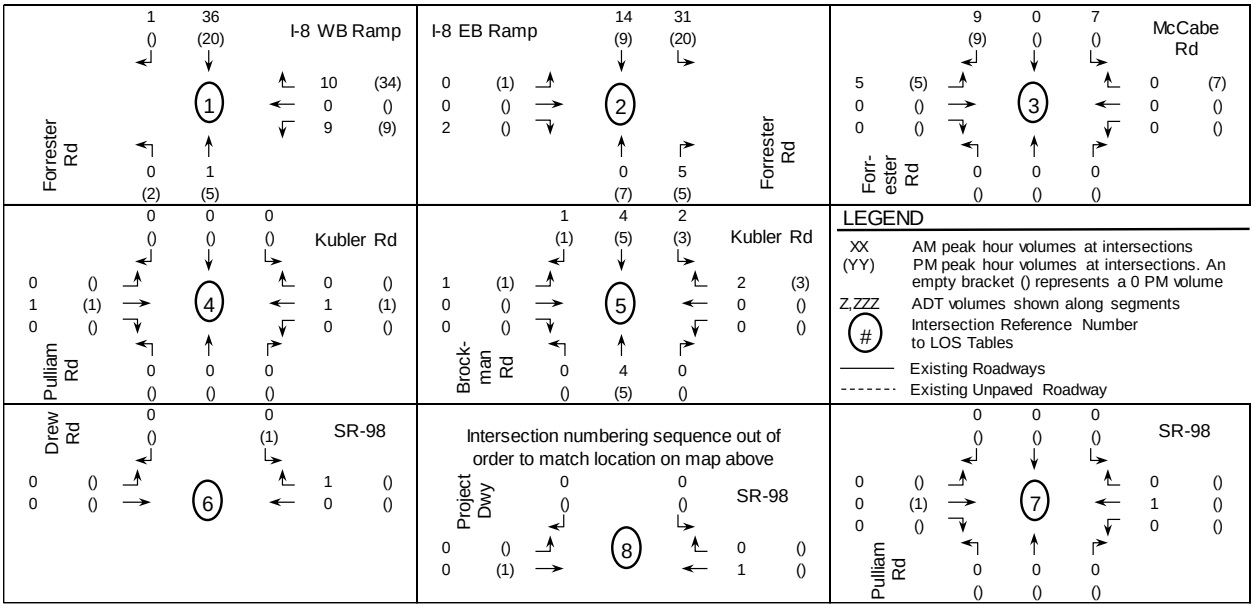
#	Project Name	Description	Traffic Generation
6	Centinela Solar Phase 2	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located east of Drew Road and south of I-8.
7	Coyne Ranch Specific Plan	Specific Plan	A residential project with up to 546 residential units located at 1642 Ross Road.
8	County Center II Expansion	Mixed-Use	A mixed-use project of a commercial center, expansion of the Imperial County Office of Education, a Joint-Use Teacher Training and Conference Center, Judicial Center, County Park, Jail expansion, County Administrative Complex, Public Works Administration, and a County Administrative Complex located on the southwest corner of McCabe Road and Clark Road.
9	IV Substation and SDG&E Ocotillo Solar	Transmission Line	A project connecting the Imperial Irrigation District's "S" line from the Imperial Irrigation District substation to the Imperial Valley substation and a PV solar facility capable of producing approximately 14 MWs of electricity generally located adjacent to the SDG&E Imperial Valley Substation.
10	IRIS Solar Farm Cluster (Ferrell, Rockwood, Iris, and Lyons)	Photovoltaic Solar Facility	PV solar facilities capable of producing approximately 360 MWs of electricity generally located north of SR-98 between Brockman Road and Weed Road.
11	Wistaria Ranch Solar Energy Center	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 250 MWs of electricity generally located 8 miles west of the city of Calexico.
12	Vega Solar	Photovoltaic Solar Facility	A PV solar facility capable of producing approximately 100 MWs of electricity generally located west of Drew Road and south of I-8.
13	Le Conte Battery Storage System	Battery Storage	Battery storage system proposed on 2.0 acres within the Centinela Solar Facility capable of strong 125 MWs.

Source: LOS 2018 based on Table 3.0-1 of Chapter 3.0.

B. METHODOLOGY

It was assumed that the cumulative projects listed in **Table 4.3-27** above will be generating construction traffic during the construction phase of the Drew Solar project. Presently, however, some of the cumulative projects are still in the environmental review process and, thus, may add construction traffic after the completion of the Drew Solar Project. Alternatively, some of the cumulative projects may add traffic before the construction of the proposed Project. Furthermore, most if not all of the cumulative solar projects will have a peak construction period that may or may not coincide with the Drew Solar Project peak construction period. Finally, there is a chance that some of the cumulative projects will not proceed. However, the Draft Impact Analysis is made with the conservative assumption that all of the peak cumulative construction volumes were used in the cumulative analysis. Realistically, however, there is high likelihood that all construction peaks will not coincide. The cumulative project (new development) volumes are shown in **Figure 4.3-12**.





Source: LOS 2018.

FIGURE 4.3-12
LONG-TERM CUMULATIVE PROJECT (NEW DEVELOPMENT) VOLUMES

C. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS - Existing (Year 2017) With Project Construction With Cumulative Conditions

Impact 4.3.7 Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under (Year 2017) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to study area intersections, roadway, State Route and freeway segments under (Year 2017) With Project Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario under both the Full Build-Out Scenario and Phased CUP Scenario.

Existing (Year 2017) With Project Construction With Cumulative Conditions

This analysis documents the addition of Project construction traffic onto (Year 2017) with cumulative conditions. **Figure 4.3-13** depicts (Year 2017) With Project Construction With Cumulative traffic volumes. Intersection, roadway, Statement and freeway segment LOS are shown in **Table 4.3-28, Table 4.3-29** and **Table 4.3-30**. Intersection LOS calculations are included in Appendix N of the Draft Traffic Impact Analysis included as **Appendix C** of this EIR.

Intersection LOS

Table 4.3-28 summarizes intersection LOS under (Year 2017) With Project Construction With Cumulative conditions. (Intersection LOS calculations are included in Appendix N of the Draft Traffic Impact Analysis **[Appendix C** of this EIR]).

TABLE 4.3-28
EXISTING (YEAR 2017) WITH PROJECT CONSTRUCTION WITH CUMULATIVE INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2017) With Cumulative		(Year 2017) With Cumulative With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	12.8	B	14.2	B	1.4	None
		PM	10.8	B	11.1	B	0.3	None
2) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	12.9	B	13.7	B	0.8	None
		PM	21.1	C	22.9	C	1.8	None
3) Forrester Road at McCabe Road(U)	Minor Leg	AM	12.1	B	13.7	B	1.6	None
		PM	14.9	B	18.9	C	4.0	None
4) Pulliam Road and Kubler Road (U)	Minor Leg	AM	9.0	A	9.4	A	0.4	None
		PM	9.1	A	9.8	A	0.7	None
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	10.5	B	10.9	B	0.4	None
		PM	9.1	A	9.8	A	0.7	None
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.9	A	9.1	A	0.2	None
		PM	9.3	A	9.5	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.4	A	9.8	A	0.4	None
		PM	8.8	A	10.0	B	1.2	None
8) SR 98 at Project West Driveway(U)	Minor Leg	AM	0.0	A	0.8	A	0.8	None
		PM	0.0	A	9.5	A	9.5	None

Source: LOS 2018.

Notes: [1] Intersection Control – (S) Signalized, (U) Un-signalized. [4]Delta is the increase in delay from project.
[2] Delay – HCM Average Control Delay in seconds. [5]Type of impact: none, direct or cumulative.
[3] LOS: Level of Service Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.

As shown, under Existing (Year 2017) With Project Construction with Cumulative Conditions, all Project study area intersections are calculated to operate at LOS C or better. One intersection (Forrester Road at McCabe Road) would experience a decline in LOS from LOS B to LOS C during the PM peak hour. Pulliam Road at SR 98 would decrease from Los A to LOS B during the PM peak hour. No other changes in LOS would occur with the addition of cumulative traffic. Moreover, the increases in traffic resulting from cumulative conditions would not exceed LOS standards. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative intersection traffic. Likewise, cumulative impacts to cumulative intersection LOS would be **less than cumulatively considerable** under Existing (Year 2017) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Roadway and State Route Segment LOS

Table 4.3-29 summarizes roadway and State Route segment LOS for Existing (Year 2017) With Project Construction With Cumulative conditions. As shown, all segments would continue to operate above LOS C (LOS A or LOS B). No change in LOS would occur for any segment with the addition of Year 2017 cumulative traffic conditions. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative roadway and State Route segment traffic. Likewise, cumulative impacts to cumulative roadway and State Route segment LOS would be **less than cumulatively considerable** under Existing (Year 2017) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Freeway Segment LOS

Table 4.3-30 summarizes freeway segment LOS under Existing (Year 2017) With Project Construction With Cumulative conditions. As shown, both freeway segments were calculated to operate at or above LOS. However, the segment of I-8 from Dunaway Road to Drew Road would experience a decline in LOS from LOS A to LOS B during the AM peak hour in the westbound direction and in the PM Peak Hour in both the eastbound and westbound direction with the addition of cumulative traffic. The segment of I-8 from Forrester Road to Imperial Avenue would experience a decline from LOS A to LOS B in the AM Peak Hour in the eastbound direction and from LOS B to LOS C in the PM Peak Hour in the east bound direction. In no instance would the increases in traffic resulting from Project construction exceed V/C ratios or LOS standards. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative freeway segment traffic. Likewise, cumulative impacts to cumulative freeway segment LOS would be **less than cumulatively considerable** under Existing (Year 2017) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

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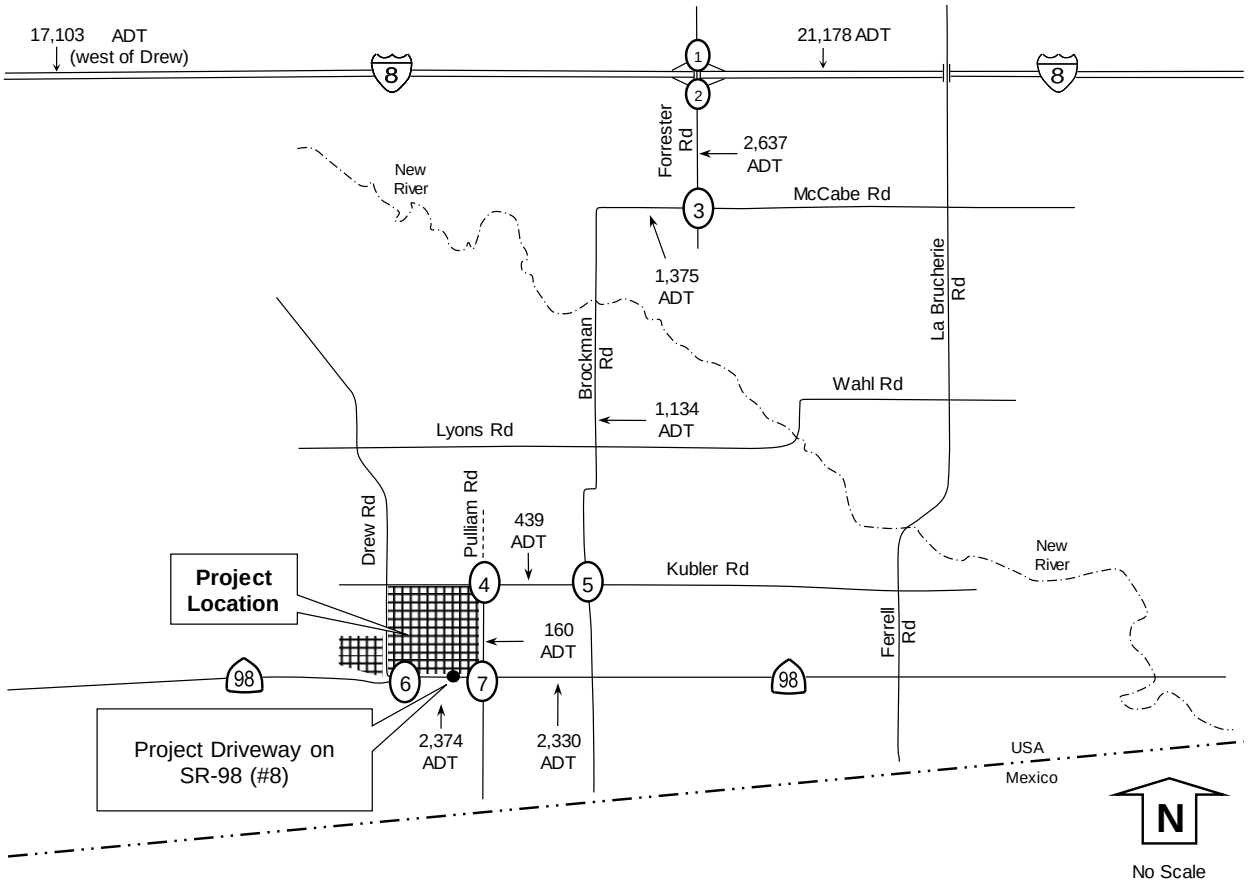

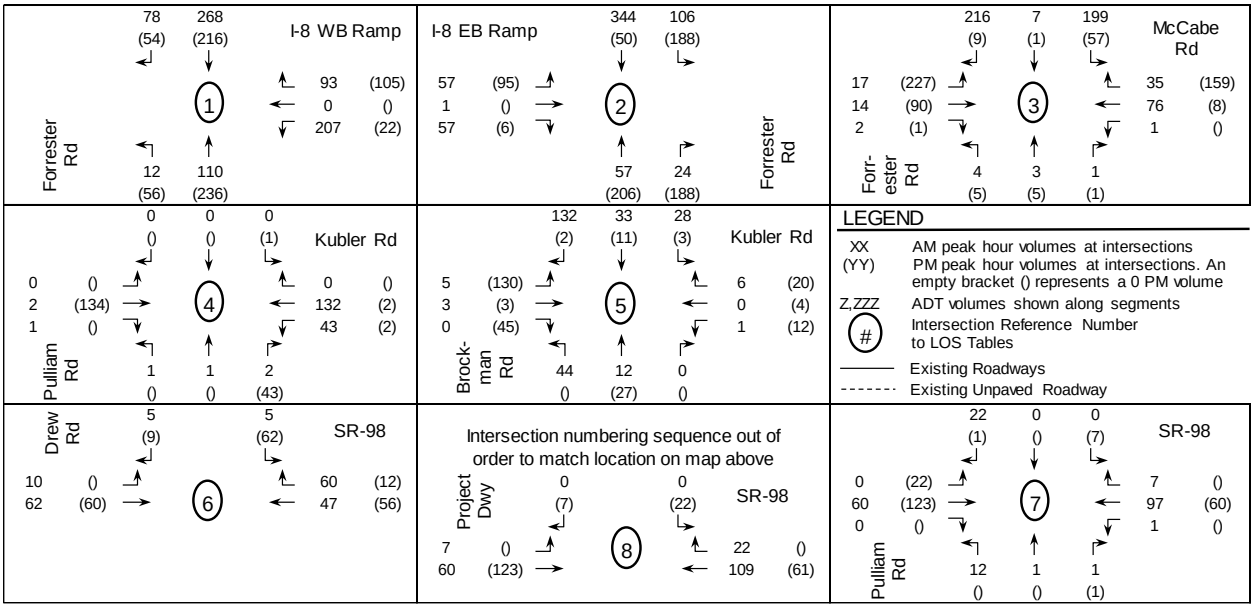

Source: LOS 2018.

FIGURE 4.3-13
EXISTING (YEAR 2017) WITH PROJECT CONSTRUCTION WITH CUMULATIVE VOLUMES

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TABLE 4.3-29
EXISTING (YEAR 2017) WITH PROJECT CONSTRUCTION WITH CUMULATIVE ROADWAY AND STATE ROUTE SEGMENT LOS

Roadway Segment	Classification (as built)	(Year 2017) With Cumulative				Project Daily Volume	(Year 2017) With Cumulative With Project				
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Impact?
Brockman Road											
McCabe Road to Kubler Road	Major (2U)	872	7,100	0.12	A	262	1,134	7,100	0.16	A	None
Forrester Road											
I-8 to McCabe Road	Prime (2U)	2,463	7,100	0.35	B	174	2,637	7,100	0.37	B	None
Kubler Road											
Brockman Road to Ferrell Road	Minor (2U)	177	7,100	0.02	A	262	439	7,100	0.06	A	None
McCabe Road											
Brockman Road to Forrester Road	Major (2U)	1,375	7,100	0.19	A	1,113	1,375	7,100	0.19	A	None
Pulliam Road											
Kubler Road to SR 98	Minor (2U)	29	7,100	0.00	A	131	260	7,100	0.02	A	None
SR 98											
Drew Road to Pulliam Road	State Highway (2U)	2,211	7,100	0.31	B	153	2,374	7,100	0.33	B	None
Pulliam Road to Brockman Road	State Highway (2U)	2,211	7,100	0.31	B	109	2,330	7,100	0.33	B	None

Source: LOS 2018.

Notes: Classification based on January 29, 2008 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway. Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

TABLE 4.3-30
EXISTING (YEAR 2017) WITH PROJECT CONSTRUCTION WITH CUMULATIVE FREEWAY SEGMENT LOS

Freeway Segment	I-8 Dunaway Road to Drew Road				I-8 Forrester Road to Imperial Avenue			
Existing (Year 2017)								
ADT	14,400				17,200			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,032	1,131	1,299	1,321	1,318	1,446	1,661	1,689
V/C	0.220	0.241	0.276	0.281	0.281	0.380	0.353	0.359
LOS	A	A	A	A	A	B	B	B
Cumulative With Project	248	385	435	282	237	582	643	280
Existing (Year 2017) With Cumulative With Project								
Peak Hour Volume	4,280	1,516	1,734	1,603	1,555	2,028	2,304	1,969
V/C	0.272	0.323	0.369	0.341	0.331	0.431	0.490	0.419
LOS	A	B	B	B	B	B	C	B
Increase in V/C	0.053	0.082	0.093	0.060	0.050	0.124	0.137	0.060
Impact	None	None	None	None	None	None	None	None

Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.
[1] Latest K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.
[3] D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.
[4] Latest truck factor from Caltrans (based on 2015 report).
Impact? = Direct, Cumulative, or None.

Overall, under Existing (Year 2017) With Project Construction With Cumulative conditions, the Project study area intersections, roadway, State Route and freeway segments were calculated to operate at LOS C or better with **no cumulatively considerable impacts** under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS Near-Term (Year 2019) With Project Construction With Cumulative Conditions)

Impact 4.3.8 Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under Near-Term (Year 2019) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to Project study area intersections, roadway, State Route and freeway segments under Near-Term (Year 2019) With Project

Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.

Near-Term (Year 2019) With Project Construction With Cumulative Conditions

This analysis documents the addition of construction traffic onto Near-Term (Year 2019) with Cumulative conditions. Near-Term (Year 2019) With Project Construction With Cumulative traffic volumes are shown in **Figure 4.3-14**. Intersection, segment, and freeway LOS are shown in **Tables 4.3-31, Table 4.3-32** and **Table 4.3-33**.

Intersection LOS

Table 4.3-31 summarizes intersection LOS under Near-Term (Year 2019) with Project Construction With Cumulative conditions. (Intersection LOS calculations are included in Appendix N of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).

TABLE 4.3-31
NEAR-TERM (YEAR 2019) WITH PROJECT CONSTRUCTION WITH CUMULATIVE INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2019) With Cumulative		(Year 2019) With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delta[4]	Impact[5]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	13.0	B	14.4	B	1.4	None
		PM	10.9	B	11.2	B	0.3	None
2) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	13.1	B	13.9	B	0.8	None
		PM	22.2	C	24.3	C	2.1	None
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	12.2	B	13.9	B	1.7	None
		PM	15.1	C	19.1	C	4.0	None
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	9.0	A	9.4	A	0.4	None
		PM	9.1	A	9.8	A	0.7	None
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	10.5	B	10.9	B	0.4	None
		PM	9.1	A	9.8	A	0.7	None
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.9	A	9.6	A	0.2	None
		PM	9.3	A	9.4	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.4	A	9.8	A	0.4	None
		PM	8.8	A	10.1	B	1.3	None
8) SR 98 at Project West Driveway(U)	Minor Leg	AM	0.0	A	0.8	A	0.8	None
		PM	0.0	A	9.5	A	9.5	None

Source: LOS 2018. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.
Notes: [1]Control - (S) Signalized, (U) Un-signalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service.
[4] Delta is the increase in delay from project.
[5] Type of impact: none, direct, or cumulative.

As shown, under Near-Term (Year 2019) With Project Construction with Cumulative Conditions, all Project study area intersections are calculated to operate at LOS C or better. Only one intersection (Pulliam Road at SR 98) would experience a decline in LOS from LOS A to LOS B during the PM Peak hour. LOS of all other segments would remain unchanged under Project construction with cumulative conditions. Moreover, the increases in traffic resulting from Project construction with cumulative conditions would not exceed the LOS standards as Forrester Road at the eastbound ramp and Forrester Road at McCabe would continue to operate at LOS C in the PM Peak Hour with Project traffic. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative intersection traffic.

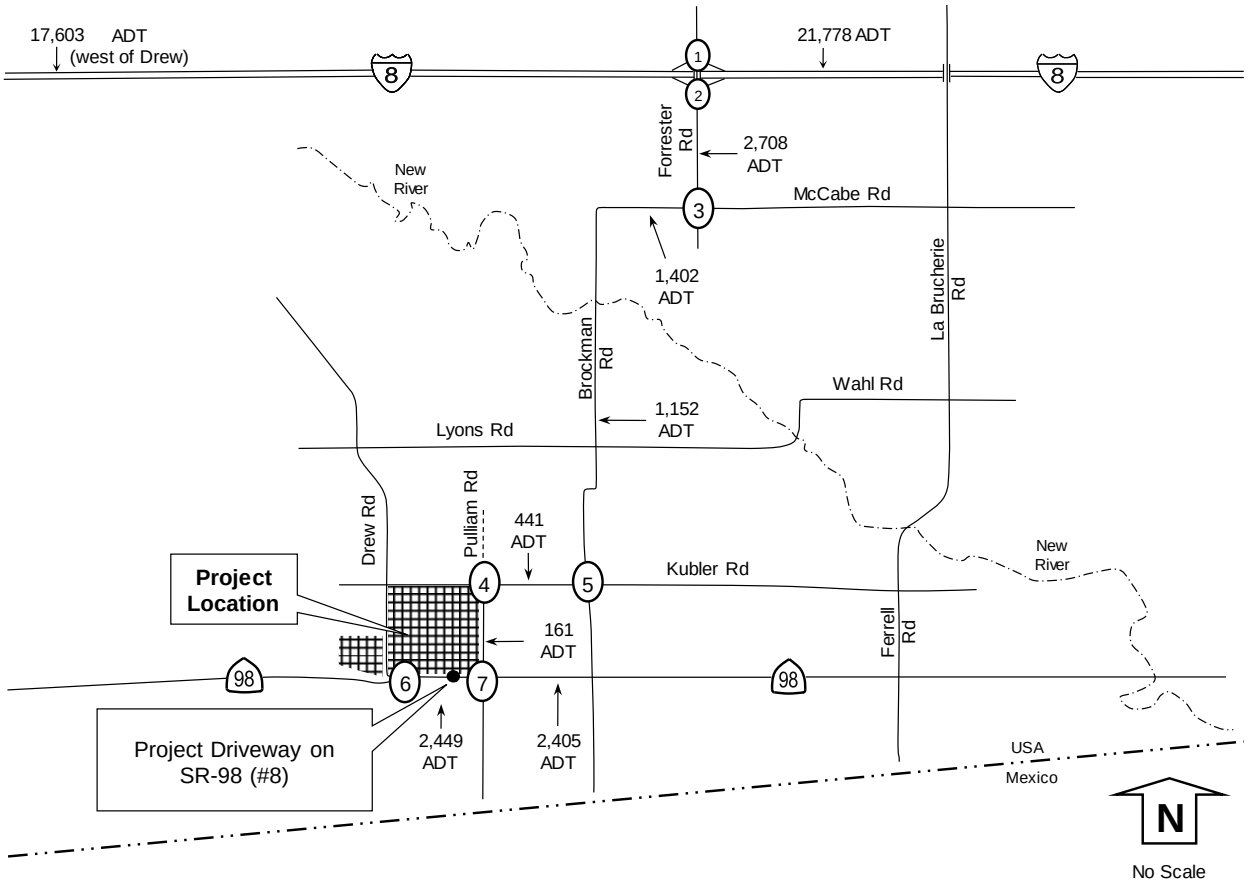
Likewise, cumulative impacts to cumulative intersection LOS would be **less than cumulatively considerable** under Near-Term (Year 2019) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

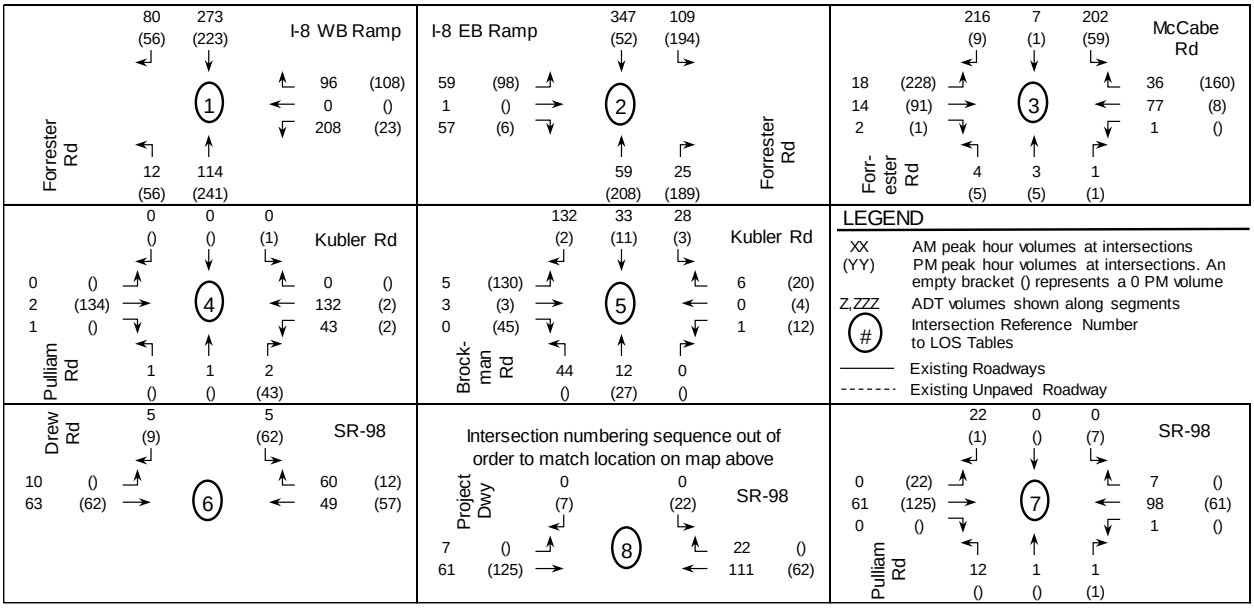
Roadway and State Route Segment LOS

Table 4.3-32 summarizes roadway segment LOS for Near-Term (Year 2019) With Project Construction With Cumulative conditions. As shown, all segments would continue to operate above LOS C (at LOS A or LOS B). No change in LOS would occur for any segment with the addition of Near-Term (Year 2019) cumulative traffic conditions. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative roadway segment traffic. Likewise, cumulative impacts to cumulative roadway segment LOS would be **less than cumulatively considerable** under Near-Term (Year 2019) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Freeway Segment LOS

Table 4.3-33 summarizes freeway segment LOS under Near-Term (Year 2019) With Project Construction With Cumulative conditions. As shown, both freeway segments were calculated to operate at or above LOS C. The segment of I-8 from Drew Road to Dunaway Road would experience a decline in LOS from LOS A to LOS B during the AM peak hour in the westbound direction and in the PM Peak Hour in both the eastbound and westbound directions with the addition of cumulative traffic. The segment of I-8 from Forrester Road to Imperial Avenue would decline from LOS A to LOS B in the AM Peak Hour eastbound direction and from LOS B to LOS C in the PM Peak Hour eastbound direction. LOS of all other segments would be unchanged with the addition of cumulative traffic. Moreover, the increases in traffic resulting from Project construction would not exceed V/C ratios or LOS standards. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative freeway segment traffic. Likewise, cumulative impacts to cumulative freeway segment LOS would be **less than cumulatively considerable** under Near-Term (Year 2019) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.





Source: LOS 2018.

FIGURE 4.3-14
NEAR-TERM (YEAR 2019) WITH PROJECT CONSTRUCTION WITH CUMULATIVE VOLUMES

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TABLE 4.3-32
NEAR-TERM (YEAR 2019) WITH PROJECT CONSTRUCTION WITH CUMULATIVE ROADWAY AND STATE ROUTE SEGMENT LOS

Roadway Segment	Classification (as built)	(Year 2019) With Cumulative				Project Daily Volume	(Year 2019) With Cumulative With Project				
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Impact ?
Brockman Road											
McCabe Road to Kubler Road	Major (2U)	890	7,100	0.13	A	262	1,152	7,100	0.16	A	None
Forrester Road											
I-8 to McCabe Road	Prime (2U)	2,534	7,100	0.36	B	174	2,708	7,100	0.38	B	None
Kubler Road											
Brockman Road to Ferrell Road	Minor (2U)	179	7,100	0.03	A	262	441	7,100	0.06	A	None
McCabe Road											
Brockman Road to Forrester Road	Major (2U)	1,140	7,100	0.16	A	262	1,402	7,100	0.20	A	None
Pulliam Road											
Kubler Road to SR 98	Minor (2U)	30	7,100	0.00	A	131	161	7,100	0.02	A	None
SR 98											
Drew Road to Pulliam Road	State Highway (2U)	2,296	7,100	0.32	B	153	2,449	7,100	0.34	B	None
Pulliam Road to Brockman Road	State Highway (2U)	2,296	7,100	0.32	B	109	2,405	7,100	0.34	B	None

Source: LOS 2018.

Notes: Classification based on the Imperial County General Plan, Circulation and Scenic Highways Element, January 29, 2008.
2U = 2-lane undivided roadway.
Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

TABLE 4.3-33
NEAR-TERM (YEAR 2019) WITH PROJECT CONSTRUCTION WITH CUMULATIVE FREEWAY SEGMENT LOS

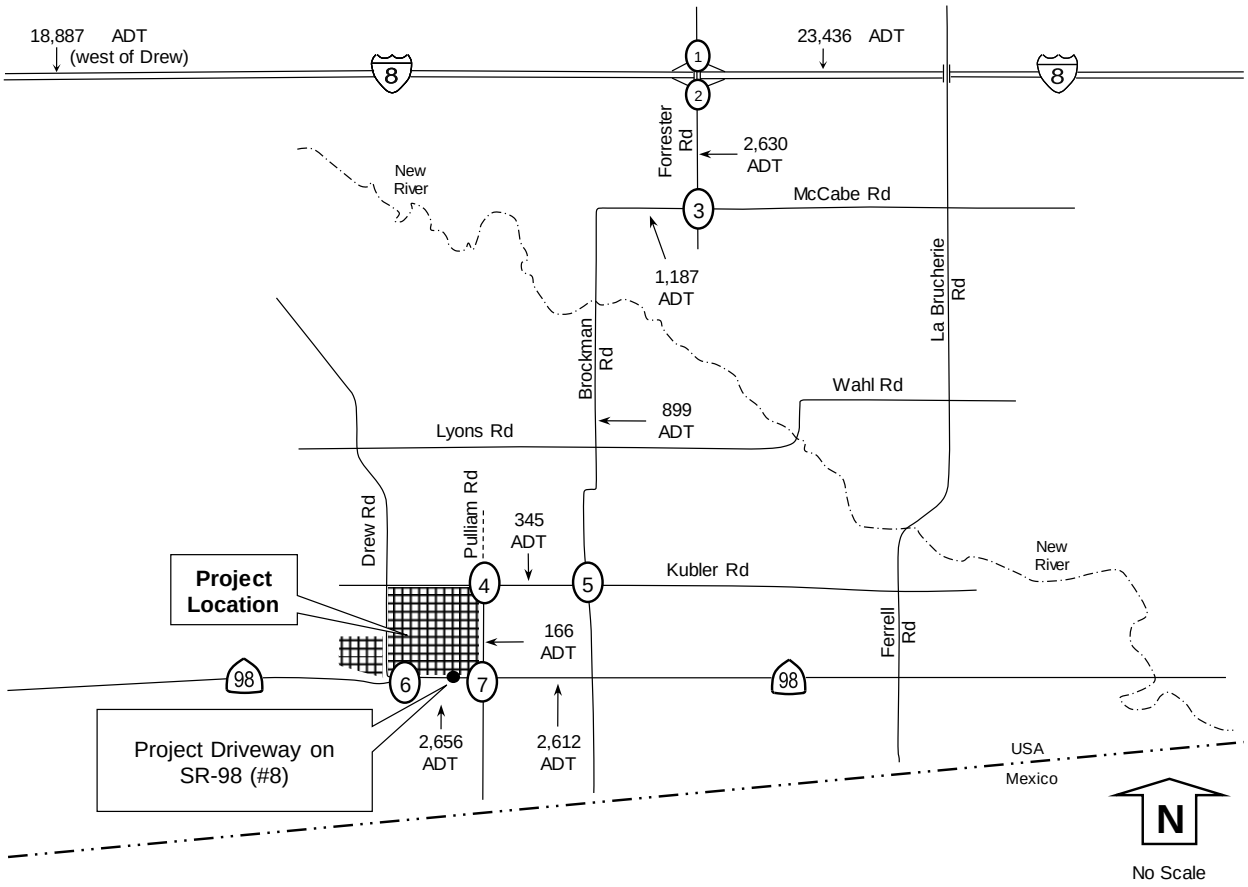
Freeway Segment	I-8 Drew Road to Dunaway Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2019)								
ADT	14,500				17,800			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,069	1,172	1,346	1,369	1,364	1,496	1,718	1,748
V/C	0.227	0.249	0.286	0.291	0.290	0.318	0.366	0.372
LOS	A	A	A	A	A	B	B	B
Cumulative With Project	248	385	435	282	237	582	643	280
2019 With Cumulative With Project								
Peak Hour Volume	1,317	1,557	1,781	1,651	1,601	2,078	2,361	2,028
V/C	0.280	0.331	0.379	0.351	0.341	0.442	0.52	0.431
LOS	A	B	B	B	B	B	C	B
Increase in V/C	0.053	0.082	0.093	0.060	0.050	0.124	0.137	0.060
Impact	None	None	None	None	None	None	None	None

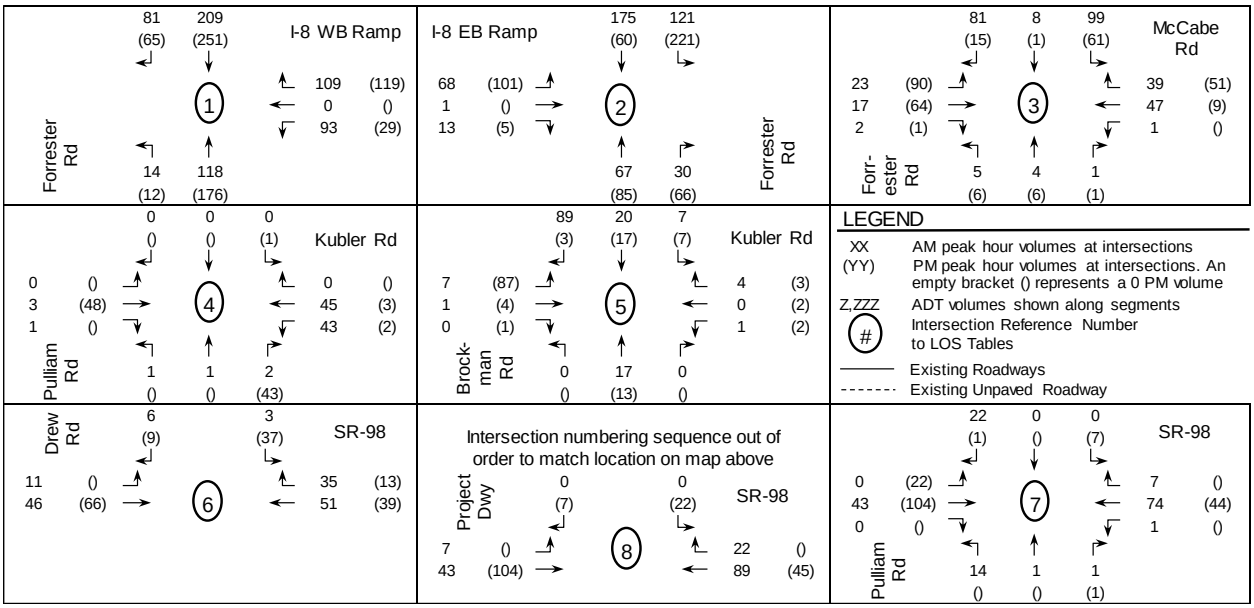
Source: LOS 2018. Impact? = Direct, Cumulative, or None.
Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.
[2] K factor from Caltrans (based on 2017 report), which is the percentage of AADT in both directions.
[3] Latest D factor from Caltrans (based on 2017 report), which when multiplied by K and ADT will provide peak hour volume.
[4] Latest truck factor from Caltrans (based on 2015 report).

Overall, under near-term (Year 2019) With Project Construction With Cumulative conditions, the Project study area intersections, roadway segments and freeway segments were calculated to operate at LOS C or better with **no cumulatively considerable impacts.**

Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS - Long-Term (Year 2027) With Project Construction With Cumulative Conditions

Impact 4.3.9 Implementation of the proposed Project would contribute construction traffic to Project study area intersections, roadway, State Route and freeway segments under Long-Term (Year 2027) With Project Construction With Cumulative Conditions. However, none of the intersections or segments would exceed LOS C or V/C ratios under this scenario. Therefore, cumulative impacts to Project study area intersection, roadway, State Route and freeway segments under Long-Term (Year 2027) With Project Construction With Cumulative Conditions are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.





Source: LOS 2018.

FIGURE 4.3-15
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION WITH CUMULATIVE VOLUMES

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Long-Term (Year 2027) With Project Construction With Cumulative Conditions

This section discusses the addition of construction traffic onto Long-Term (Year 2027) with cumulative conditions. Long-Term (Year 2027) Cumulative Project traffic was used for this scenario. Long-Term (Year 2027) With Project Construction With Cumulative traffic volumes are shown in **Figure 4.3-16**. Intersection, roadway, State Route and freeway LOS are shown in **Table 4.3-34, Table 4.3-35** and **Table 4.3-36**.

Intersection LOS

Table 4.3-34 summarizes intersection LOS under Long-Term (Year 2027) With Project Construction With Cumulative conditions. (Intersection LOS calculations are included in Appendix U of the Draft Traffic Impact Analysis [**Appendix C** of this EIR]).

TABLE 4.3-34
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION WITH CUMULATIVE INTERSECTION LOS

Intersection & (Control)[1]	Movement	Peak Hour	(Year 2027) With Cumulative		(Year 2027) With Cumulative With Project			
			Delay[2]	LOS[3]	Delay[2]	LOS[3]	Delay[2]	LOS[3]
1) Forrester Road at I-8 WB Ramp (U)	Minor Leg	AM	10.3	B	10.9	B	0.6	None
		PM	10.3	B	10.5	B	0.2	None
2) Forrester Road at I-8 EB Ramp (U)	Minor Leg	AM	12.9	B	13.9	B	1.0	None
		PM	18.2	C	19.6	C	1.4	None
3) Forrester Road at McCabe Road (U)	Minor Leg	AM	939	A	10.4	B	0.5	None
		PM	9.8	A	11.3	B	1.5	None
4) Pulliam Road at Kubler Road (U)	Minor Leg	AM	8.7	A	9.1	A	0.4	None
		PM	8.6	A	9.2	A	0.6	None
5) Brockman Road at Kubler Road (U)	Minor Leg	AM	9.0	A	9.3	A	0.3	None
		PM	9.1	A	9.3	A	0.2	None
6) Drew Road at SR 98 (U)	Minor Leg	AM	8.7	A	8.9	A	0.2	None
		PM	9.0	A	9.2	A	0.2	None
7) Pulliam Road at SR 98 (U)	Minor Leg	AM	9.1	A	9.5	A	0.4	None
		PM	8.7	A	8.8	B	0.1	None
8) SR 98 at Project West Driveway(U)	Minor Leg	AM	0.0	A	1.0	A	1.0	None
		PM	0.0	A	9.3	A	9.3	None

Source: LOS 2018. Minor Leg: approach LOS of minor/lesser roadway. All: combined LOS for all approaches.
Notes: [1]Control - (S) Signalized, (U) Un-signalized.
[2] Delay - HCM Average Control Delay in seconds.
[3] LOS: Level of Service.
[4] Delta is the increase in delay from project.
[5] Type of impact: none, direct, or cumulative.

As shown, under Long-Term (Year 2027) With Project Construction With Cumulative Conditions, all Project study area intersections are calculated to operate at LOS C or better. One intersection (Forrester Road at McCabe Road) would experience a decline LOS A to LOS B in both the AM and PM peak hour. The intersection of Pulliam Road and SR 98 would also decline from LOS A to LOS B in the PM Peak Hour. LOS of all other segments would remain unchanged under cumulative conditions including Forrester Road at McCabe Road which currently operates at LOS C in the PM Peak Hour. In all cases, the increases in traffic resulting from cumulative conditions would not exceed LOS standards. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative intersection traffic. Likewise, cumulative impacts to cumulative intersection LOS would be **less than cumulatively considerable** under Mid-Term (Year 2019) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

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TABLE 4.3-35
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION WITH CUMULATIVE ROADWAY AND STATE ROUTE SEGMENT LOS

Roadway Segment	Classification (as built)	(Year 2027) With Cumulative				Project Daily Volume	(Year 2027) With Cumulative With Project				
		Daily Volume	LOS C Capacity	V/C	LOS		Daily Volume	LOS C Capacity	V/C	LOS	Impact ?
Brockman Road											
McCabe Road to Kubler Road	Major (2U)	637	7,100	0.09	A	262	899	7,100	0.13	A	None
Forrester Road											
I-8 to McCabe Road	Prime (2U)	2,456	7,100	0.35	B	174	2,630	7,100	0.37	B	None
Kubler Road											
Brockman Road to Ferrell Road	Minor (2U)	83	7,100	0.01	A	262	345	7,100	0.05	A	None
McCabe Road											
Brockman Road to Forrester Road	Major (2U)	925	7,100	0.13	A	262	1,187	7,100	0.17	A	None
Pulliam Road											
Kubler Road to SR 98	Minor (2U)	35	7,100	0.00	A	131	166	7,100	0.02	A	None
SR 98											
Drew Road to Pulliam Road	State Highway (2U)	2,503	7,100	0.35	B	153	2,656	7,100	0.37	B	None
Pulliam Road to Brockman Road	State Highway (2U)	2,503	7,100	0.35	B	109	2,612	7,100	0.37	B	None

Source: LOS 2018.
Notes: Classification based on January 29, 2008 Circulation and Scenic Highways Element.
2U = 2-lane undivided roadway.
Daily volume is a 24-hour volume.
LOS: Level of Service. LOS based on actual number of lanes currently constructed.
V/C: Volume to Capacity ratio.
Impact? = type of impact (none, cumulative, or direct).

Roadway and State Route Segment LOS

Table 4.3-35 summarizes roadway segment LOS for Long-Term (Year 2027) With Project Construction With Cumulative conditions. As shown, all segments would continue to operate above LOS C (at LOS A or LOS B). No change in LOS would occur for any segment with the addition of Long-Term (Year 2027) cumulative traffic conditions. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative roadway and State Route segment traffic. Likewise, cumulative impacts to cumulative roadway and State Route segment LOS would be **less than cumulatively considerable** under Long-Term (Year 2027) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Freeway Segment LOS

Table 4.3-36 summarizes freeway segment LOS under Long-Term (Year 2027) With Project Construction With Cumulative conditions.

TABLE 4.3-36
LONG-TERM (YEAR 2027) WITH PROJECT CONSTRUCTION WITH CUMULATIVE FREEWAY SEGMENT LOS

Freeway Segment	I-8 Drew Road to Forrester Road				I-8 Forrester Road to Imperial Avenue			
Forecasted (Year 2027)								
ADT	16,700				20,600			
Peak Hour	AM		PM		AM		PM	
Direction	EB	WB	EB	WB	EB	WB	EB	WB
Number of Lanes	2	2	2	2	2	2	2	2
Capacity [1]	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
K Factor[2]	0.1346	0.1346	0.1631	0.1631	0.1346	0.1346	0.1631	0.1631
D Factor[3]	0.4770	0.5230	0.4958	0.5042	0.4770	0.5230	0.4958	0.5042
Truck Factor[4]	0.8712	0.8712	0.8712	0.8712	0.8376	0.8376	0.8376	0.8376
Peak Hour Volume	1,31	1,349	1,550	1,576	1,579	1,731	1,989	2,022
Volume to Capacity	0.262	0.287	0.330	0.335	0.336	0.368	0.423	0.430
LOS	A	A	B	B	B	B	B	B
Cumulative With Project	248	385	435	282	237	582	643	280
2027 With Cumulative With Project								
Peak Hour Volume	1,479	1,734	1,985	1,858	1,816	2,313	2,632	2,302
V/C	0.315	0.369	0.422	0.395	0.386	0.492	0.560	0.490
LOS	B	B	B	B	B	C	C	B
Increase in V/C	0.053	0.082	0.093	0.060	0.050	0.124	0.137	0.060
Impact	None	None	None	None	None	None	None	None

Source: LOS 2018.

Notes: [1] Capacity of 2,350 pcphpl from CALTRANS' Guide for the Preparation of Traffic Impact Studies, December 2002.

[2] Latest K factor from Caltrans (based on 2007 report), which is the percentage of AADT in both directions.

[2] Latest D factor from Caltrans (based on 2007 report), which when multiplied by K and ADT will provide peak hour volume.

[4] Latest truck factor from Caltrans (based on 2015 report).

Impact? = Direct, Cumulative, or None.

As shown, both freeway segments were calculated to operate at or above LOS C. However, the AM LOS for the segment of I-8 from Dunaway Road to Drew Road would decrease from LOS A to LOS B in both the eastbound and westbound direction. Likewise, the westbound segment of I-8 from Forrester Road to

Imperial Avenue would decline from LOS B to LOS C in the AM Peak Hour going westbound and PM Peak Hour going eastbound with the addition of cumulative traffic. In no case would the increases in traffic resulting from Project construction exceed V/C ratios or LOS standards. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to cumulative freeway segment traffic. Likewise, cumulative impacts to cumulative freeway segment LOS would be **less than cumulatively considerable** under Long-Term (Year 2027) With Project Construction With Cumulative conditions under both the Full Build-Out Scenario and Phased CUP Scenario.

Overall, under Long-Term (Year 2027) With Project Construction With Cumulative Conditions, the Project study area intersections, roadway, State Route and freeway segments were calculated to operate at LOS C or better with **no cumulatively considerable impacts** under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Cumulative Increase Hazards Due to a Geometric Design Feature

Impact 4.3.10 Implementation of the proposed Project would not require improvements or modifications to any Project study area roadways. Therefore cumulative increases in hazards due to a geometric design feature are considered **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning/Reclamation

Multiple County maintained roads provide access throughout the Project Area and to each CUP (refer to **Figure 4.3-11**). Access to each CUP will primarily be via the following paved roads: Pulliam Road, Drew Road, Kubler Road and SR 98. None of these roads would require the addition of left-turn lanes or other geometric design features that could create a hazard. Improvements associated with other cumulative projects identified in **Table 4.3-27** would be assessed on a project-by-project basis and any geometric design features which may be considered a hazard would be address on a project-specific level. Therefore the Project's contribution to the cumulative increases in hazards due to a geometric design feature are **considered less than cumulatively considerable** during Project construction, operation and decommissioning. Likewise, cumulative increases in hazards due to a geometric design feature are considered **less than cumulatively considerable** during Project construction, operation and decommissioning/reclamation under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Cumulative Increases in Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction

Impact 4.3.11 Construction of the proposed Project, in combination with other cumulative projects using Project study area roadways, will require movement of heavy-duty equipment and large vehicles on County roadways not designed to accommodate high volumes of overweight trucks and loads. The high volume of trips in combination with the weight of construction vehicles would deteriorate the surface of Project study area roadways. This is considered a **cumulatively considerable impact** under both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

As described under Impact 4.3.11, above, implementation of the proposed Project has the potential to damage area roadways and other infrastructure (e.g. IID canals and drains) that are not designed to accommodate the volume or weight of traffic associated with construction. Likewise, the number of cumulative projects in the vicinity of the Project Area that would use Project study area roadways would also contribute to wear and tear on these roadways. Given the volume of trips and the weight of vehicles using these roadways, it is anticipated that the proposed Project would result in a **cumulatively considerable contribution** to damage to County-maintained roadways during construction. Likewise, the construction of either the Full Build-Out Scenario/Phased CUP Scenario, in combination with other cumulative projects identified in **Table 4.3-27** that would also use Project study area roadways, would result in a **cumulative considerable impact** with regard to damage to County-maintained roadways under both the Full Build-Out Scenario and Phased CUP Scenario.

Mitigation Measures

Project-specific mitigation measures were identified in association with Impact 4.3.5 to minimize impacts to county roads and repair any damage resulting from construction traffic on county roads. Mitigation measures MM 4.3.5a through MM 4.3.5i would address these impacts as they apply to each CUP.

Significance After Mitigation

Implementation of mitigation measures MM 4.3.5a through MM 4.3.5i would minimize damage to county roads and address any damage to County-maintained roadways attributed to construction of the proposed Project. Following implementation, the Project's contribution to damage to Project Area roadways would be reduced to **less than cumulatively considerable** under both the Full Build-Out Scenario and Phased CUP Scenario.

SECTION 4.4
AIR QUALITY

This section identifies federal, state and local regulations applicable to air quality and describes the environmental setting with regard to compliance with applicable standards. This section also analyzes potential air quality impacts associated with construction and operation of the proposed Project. Reclamation is discussed on a qualitative basis. Information contained in this section is summarized from the "Air Quality and Greenhouse Gas Analysis for the Drew Solar Project" (RECON 2018a), prepared by RECON. This document and supporting attachments are provided as **Appendix D** on the attached CD of Technical Appendices of this EIR.

4.4.1 REGULATORY FRAMEWORK

A. FEDERAL

Clean Air Act

The Clean Air Act (CAA) was enacted in 1970 to foster growth in the economy and industry while improving human health and the environment. This law provides the basis for the national air pollution control effort. In order to improve air quality, the CAA requires areas with unhealthy levels of criteria pollutants to develop State Implementation Plans (SIPs). A SIP describes how and when National Ambient Air Quality Standards (NAAQS) will be attained for a specific area. SIPs are a compilation of state and local regulations used by the state to achieve healthy air quality under the Federal CAA. SIPs are comprised of new and previously submitted plans, monitoring programs, modeling programs, permitting programs, district rules, state regulations, and federal controls. State and local agencies are required to involve the public in the adoption process before SIP elements are submitted to the U.S. Environmental Protection Agency (EPA) for approval or disapproval. Likewise, the EPA is required to allow public comment prior to taking action on each SIP submittal. If the SIP is not acceptable, the EPA has authority to enforce the CAA in that state.

The most recent major changes to the CAA occurred in 1990. The 1990 amendments established new deadlines for attainment based on the severity of the pollution problem. The amendments also instigated a comprehensive planning process for attaining the NAAQS. In 1997, new national 8-hour ozone (O_3) standards and the fine particulate matter ($PM_{2.5}$) standards were introduced. These new standards resulted in additional statewide air quality planning efforts.

The consistency of projects with the SIP is assessed through land use and growth assumptions that are incorporated into the air quality planning document. If a proposed project is consistent with the applicable General Plan of the jurisdiction where it is located, then the project is assumed to be accounted for as part of the regional air quality planning process. When a project is consistent in this regard, it would not have an adverse regional air quality impact.

National Ambient Air Quality Standards

The NAAQ were established by the EPA per the requirements of the CAA. The NAAQS are used to identify thresholds for specific pollutants. Two types of air quality standards were established by the CCA 1) primary standards; and 2) secondary standards. Primary Standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and elderly. Secondary Standards define limits to protect public welfare to include protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

Ozone (O_3)

Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of nitrogen oxides (NO_X) and reactive organic

gases (ROG) (a.k.a. volatile organic chemicals [VOC] or reactive organic compounds) in the presence of sunlight. The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled) and impairing respiratory mechanics. Symptomatic responses include such as throat dryness, chest tightness, headache, and nausea. About half of smog-forming emissions come from automobiles.

Carbon Monoxide (CO)

Carbon monoxide is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue (United States Environmental Protection Agency (RECON 2018a).

Small-scale, localized concentrations of CO above the NAAQS and CAAQS may occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as “CO hotspots” and are a concern at congested intersections where automobile engines burn fuel less efficiently and their exhaust contains more CO.

Sulfur Dioxide

Sulfur dioxide is a combustion product with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

Lead (Pb)

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions.

Nitrogen Dioxide (NOx)

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Inhalation is the most common route of exposure to NO2. Because NO2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

Particulate Matter - Inhalable Coarse Particles (PM10)

PM10 is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Under typical conditions (i.e., no wildfires) particles classified under the PM10 category are mainly emitted directly from activities that disturb the soil including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear.

Particulate Matter - Inhalable Fine Particles (PM2.5)

Airborne, inhalable particles with aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that PM2.5 monitoring begin January 1, 1999. Similar to PM10, PM2.5 is also inhaled into the lungs and causes serious health problems.

Table 4.4-1 identifies the federal air quality standard for specific pollutants.

TABLE 4.4-1
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m³)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Fluorescence; Spectro- photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	

TABLE 4.4-1
STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chroma-tography			

Source: CARB 2016.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standards of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[14] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

An area is designated as being in attainment if the concentration of a specific air pollutant does not exceed the standard for that pollutant. An area is designated as being in nonattainment for a specific pollutant if the standard for that pollutant is exceeded. The criteria pollutant standards are generally attained when each monitor within the region has had no exceedances during the previous three calendar years.

B. STATE

California Ambient Air Quality Standards (CAAQS)

The California Clean Air Act was enacted in 1988 (California Health & Safety Code Section 39000 et seq.). Under the California Clean Air Act, CARB has developed the CAAQS and generally has set more stringent limits on the criteria pollutants than the NAAQS (see **Table 4.4-1**). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see **Table 4.4-1**).

California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. Similar to the CAA, the state classifies these specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the CAAQS.

California Ambient Air Quality Standards Attainment Status

The project site is located in the Salton Sea Air Basin, which encompasses Imperial County and parts of Riverside County (Coachella Valley). The Salton Sea Air Basin is a non- attainment area for the CAAQS for ozone and PM_{10} (RECON 2018a).

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel-exhaust particulate matter (DPM) emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: California Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect

emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. SB 25 requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the Imperial County Air Pollution Control District's (ICAPCD) Regulation X. Of particular concern statewide are DPM emissions. DPM was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of DPM as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in CARB's *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The CARB Air Quality Handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the CARB Air Quality Handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Air Quality Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, CARB has provided guidelines for the siting of land uses near heavily traveled roadways.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of DPM and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will continue to reduce the public's exposure to DPM.

State Implementation Plan (SIP)

The California SIP is a collection of documents that set forth the state's strategies for achieving the NAAQS. The California SIP is a compilation of new and previously submitted plans, programs (such as air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the California SIP under federal law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards revisions to the U.S. EPA for approval and publication in the *Federal Register*. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The ICAPCD is responsible for preparing and implementing the portion of the California SIP applicable to the portion of the SSAB that is in Imperial County. These portions include:

- Imperial County 2009 State Implementation Plan for Particulate Matter Less than 10 Microns in Aerodynamic Diameter

- Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area
- Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard

California In-Use Off-Road Diesel-Fueled Fleets Regulation

The California In-Use Off-Road Diesel-Fueled Fleets Regulations were approved by CARB in July 2007 and subsequent major amendments were incorporated in December 2011. The regulations are intended to reduce diesel-exhaust and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation requires that any operator of diesel- powered off-road vehicles with 25-horsepower or greater engines meet specific fleet average targets. CARB maintains schedules for small, medium, and large equipment fleets that require equipment retrofits or replacements over time to gradually bring the existing equipment up to standard. As of January 2018, all newly purchased equipment for medium and large equipment fleets will be required to meet Tier 3 or higher engine standards.

B. REGIONAL

Southern California Association of Governments

CEQA requires regional agencies to monitor regional development. The Southern California Association of Governments (SCAG) is the designated Metropolitan Planning Organization for the counties of Los Angeles, Ventura, Orange, San Bernardino, Riverside and Imperial. SCAG is responsible for reviewing projects and plans in these six counties. Projects and plans with regional significance must demonstrate consistency with a range of adopted regional plans and policies. **Table 4.4-2** identifies one goal applicable to the proposed Project from the SCAG Regional Transportation Plan (RTP) (SCAG 2012).

TABLE 4.4-2
PROJECT CONSISTENCY WITH APPLICABLE SCAG REGIONAL TRANSPORTATION PLAN GOALS

Regional Transportation Plan Goal	Consistent with RTP?	Analysis
Protect the environment and health of our residents by improving air quality and encouraging active transportation.	Yes	As a solar generation facility, the proposed Project would improve air quality by reducing the use of fossil fuels in energy production. PM_{10} emissions associated with construction of the Project would be reduced through compliance with ICAPCD Regulation VIII. Operation of the proposed Project would not exceed any ICAPCD thresholds or result in significant impacts to air quality. Therefore, the proposed Project would be consistent with this goal.

Source: SCAG 2012, p. 15.

C. LOCAL

Imperial County Air Pollution Control District (ICAPCD)

The ICAPCD covers all of Imperial County including a portion of the SSAB. The ICAPCD is primarily responsible for: monitoring air quality within the County; enforcing regulations for new and existing

stationary sources within the Imperial County portion of the SSAB; and, planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards within the ICAPCD.

Criteria pollutant standards are generally attained when each monitor within the region demonstrates no violations during the previous three calendar years. The ICAPCD currently maintains the following NAAQS designations: attainment for 24-Hour $PM_{2.5}$ and its precursors (moderate nonattainment for 8-hour O_3) (1997), marginal for 2008 ground-level O_3 standards, and serious nonattainment for PM_{10}. The County remains moderate non-attainment for annual $PM_{2.5}$ (Blondell 2019).

The Project is located in an area defined by the ICAPCD's *High Wind Exceptional Fugitive Dust Mitigation Plan* as a "high wind corridor" that is subject to periodic strong westerly winds that create wind-dust channels and can entrain fugitive dust (Blondell 2019).

CEQA Air Quality Handbook

The ICAPCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970* in 2007 and amended the handbook in December 2017 (ICAPCD 2017a). The ICAPCD CEQA Air Quality Handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects.

Stationary Source Permitting

Pursuant to ICAPCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants requires ICAPCD permits. The ICAPCD requires that all such equipment be assessed for the potential to result in health risk impacts and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment.

Fugitive Dust Control

The ICAPCD Regulation VIII (ICAPCD 2012) regulates emissions of fugitive dust. Fugitive dust is Particulate Matter entrained in the ambient air which is caused from man- made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes Particulate Matter emitted directly in the exhaust of motor vehicles or other fuel combustion devices, from portable brazing, soldering, or welding equipment, pile drivers, and stack emissions from stationary sources (ICAPCD, Rule 800 (c)(18)).

Regulation VIII includes the following specific rules:

- Rule 800–Fugitive Dust Requirements for Control of $PM_{2.5}$
- Rule 801–Construction and Earthmoving Activities
- Rule 802–Bulk Materials
- Rule 803–Carry Out and Track Out
- Rule 804–Open Areas
- Rule 805–Paved and Unpaved Roads
- Rule 806–Conservation Management Practices

Public Nuisance Law (Odors)

State of California Health and Safety Code Sections 41700 and 41705 and ICAPCD Rule 407 prohibit emissions from any source whatsoever in quantities of air contaminants or other material, that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

The ICAPCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (RECON 2018a).

Imperial County General Plan

The General Plan Conservation and Open Space Element (Imperial County 2016a) contains goals, objectives, policies and/or programs to conserve the natural environment of Imperial County. This includes the full spectrum of natural resources as well as air quality. **Table 4.4-3** summarizes the Project's consistency with the applicable air quality goal and objectives from the Conservation and Open Space Element. While this EIR analyzes the Project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Protection of Air Quality and Addressing Climate Change		
Goal 7: The County shall actively seek to improve the quality of air in the region.	Yes	The proposed Project would be required to comply with all applicable ICAPCD rules and requirements during construction and operation to reduce air emissions. Overall, the proposed Project would improve air quality and reduce GHG emissions by reducing the amount of emissions that would be generated in association with electricity production from a fossil fuel burning facility. Therefore, the proposed Project is consistent with this goal for both the Full Build-Out Scenario and the Phased CUP Scenario.

TABLE 4.4-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
Objective 7.1 Ensure that all project and facilities comply with current Federal, State and local requirements for attainment of air quality objectives.	Yes	All facilities proposed as part of the Project would comply with current federal and State requirements for attainment for air quality objectives through conformance with all applicable ICAPCD rules and requirements to reduce fugitive dust and emissions. Further, the Project would comply with the *ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures*. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 7.2 Develop management strategies to mitigate fugitive dust. Cooperate with all federal and state agencies in the effort to attain air quality objectives.	Yes	The Applicant would cooperate with all federal and State agencies in the effort to attain air quality objectives through compliance with ICAPCD Regulation VIII, requiring the construction contractor to use equipment outfitted with diesel engines with certified NO_x emissions rated as Tier 3 or better. Further, the Project would comply with the *ICAPCD Air Quality CEQA Handbook's Mandatory Standard, Discretionary and Enhanced Air Quality Measures*. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and the Phased CUP Scenario.

4.4.2 ENVIRONMENTAL SETTING

A. PROJECT AREA

Regional and Local Climate/Meteorological Conditions

Climate conditions at the project site, like the rest of Imperial County, are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most storms except in winter when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall (ICAPCD 2017b).

Winters are mild and dry with daily average temperatures ranging between 65 and 75 degrees Fahrenheit (ºF). Summers are extremely hot with daily average temperatures ranging between 104 and 115ºF. The flat terrain and the strong temperature differentials created by intense solar heating result in moderate

winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation (ICAPCD 2017b).

The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent but drops to about 10 percent during the day. Prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 miles per hour account for more than one-half of the observed wind measurements (ICAPCD 2017b).

Local Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and regionally. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by temperature inversions), and topography.

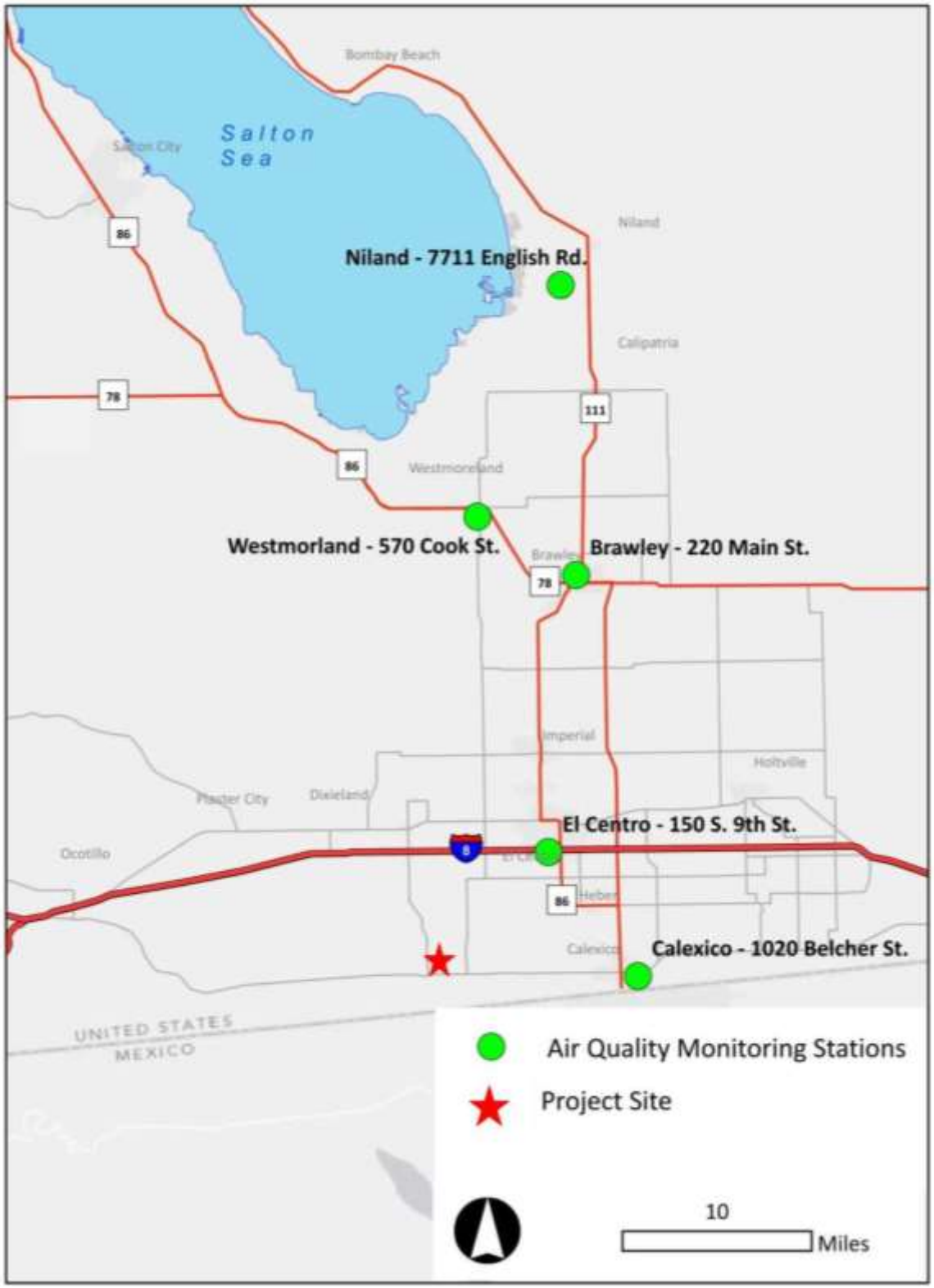
Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken and allow pollutants to be more easily dispersed. In some circumstances, the presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the build-up of pollutants. Highest and worst-case ozone levels are often associated with the presence of subsidence inversions (ICAPCD 2017a).

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by California Air Resources Board (CARB) or federal standards set by the U.S. EPA. The Imperial County Air Pollution Control District (ICAPCD) maintains five air quality monitoring stations located throughout the region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels, and to gauge compliance with state and federal air quality standards.

Criteria pollutants are measured continuously throughout Imperial County at monitoring stations located throughout the County (**Figure 4.1-1**). The ICAPCD is responsible for monitoring and reporting monitoring data. The data is used to track ambient air quality patterns throughout the County and to determine attainment status when compared to the NAAQS and CAAQS. As noted in the "Annual Network Plan for Ambient Air Monitoring" (CARB 2017a), the ICAPCD is responsible for monitoring four sites (7711 English Road, Niland; 520 Cook Street, Westmorland; 220 Main Street, Brawley; and 150 South 9th Street, El Centro) that collect meteorological and criteria pollutant data used by the District to assist with pollutant forecasting, data analysis and characterization of air pollutant transport. Also, a fifth monitoring location in the City of Calexico (Ethel Street) is operated by CARB.

The pollutants of interest in Imperial County are as follows: O_3, $PM_{2.5}$, PM_{10}, CO and NO_2. Monitoring stations in Niland, Westmorland, El Centro and Calexico all monitor for O_3 and PM_{10}. Monitoring Stations in Brawley, El Centro, and Calexico all monitor for $PM_{2.5}$ and both El Centro and Calexico monitor CO and NO_2. All stations monitor for supporting meteorological parameters (CARB 2017a, p. 7).

The nearest active monitoring station is the El Centro Monitoring Station located approximately 8 miles northeast of the Project site. The El Centro Monitoring Station measures ozone, NO_2, PM_{10}, and $PM_{2.5}$.



Source: Ericsson-Grant, Inc., ICAPCD, Project Applicant and U.S. Department of Commerce Tiger/Line Shapefiles.

FIGURE 4.4-1
LOCATION OF AIR QUALITY MONITORING STATIONS

Table 4.4-4 provides a summary of measurements collected at the El Centro Monitoring Station for the years 2014 through 2016.

TABLE 4.4-4
SUMMARY OF AIR QUALITY MEASUREMENTS - EL CENTRO MONITORING STATION

Pollutant/Standard	2014	2015	2016
Ozone			
Days State 1-hour Standard Exceeded (0.09 ppm)	2	2	4
Days State 8-hour Standard Exceeded (0.07 ppm)	13	12	11
Days Federal 8-hour Standard Exceeded (0.07 ppm)	12	11	11
Max. 1-hr (ppm)	0.101	0.099	0.108
Max 8-hr (ppm)	0.081	0.080	0.082
Nitrogen Dioxide			
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0
Max 1-hr (ppm)	0.059	0.059	0.051
Annual Average (ppm)	0.007	0.007	0.005
PM_{10}*			
Measured Days State 24-hour Standard Exceeded (50 μg/m^3)	15	7	NA
Calculated Days State 24-hour Standard Exceeded (50 μg/m^3)	90.0	44.1	NA
Measured Days Federal 24-hour Standard Exceeded (150 μg/m^3)	0	1	9
Calculated Days Federal 24-hour Standard Exceeded (150 μg/m^3)	0	6.1	9.0
Max. Daily (μg/m^3)	120.4	172.1	207.5
State Annual Average (μg/m^3)	40.8	35.6	NA
Federal Annual Average (μg/m^3)	40.8	35.6	44.3
$PM_{2.5}$*			
Days Federal 24-hour Standard Exceeded (35 μg/m^3)	0	0	0
Max. Daily (μg/m^3)	27.5	31.2	31.3
State Annual Average (μg/m^3)	6.6	6.3	9.5
Federal Annual Average (μg/m^3)	6.5	6.2	9.4

Source: CARB 2017b.

ppm = parts per million; μg/m^3 = micrograms per cubic meter

* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Sensitive Receptors

Sensitive receptors refer to individuals (e.g. young children, the elderly) or uses (e.g. parks, school playgrounds) which could be adversely affected by exposure to air pollutants. High concentrations of air pollutants present health hazards for the general population, but more so for the young, the elderly, and the sick. Respiratory ailments, eye and throat irritations, headaches, coughing, and chest discomfort can result from exposure to smog and other air pollutants. Schools, hospitals, residences, and other facilities where people congregate, especially children, the elderly and infirm, are considered especially sensitive to air pollutants.

The term "sensitive receptor" refers to a person in the population who is more susceptible to health effects due to exposure to an air contaminant than the population at large or to a land use that may

reasonably be associated with such a person. Examples include schools, day care centers, hospitals, retirement homes, convalescence facilities and residences.

The Project site is in a rural environment. The Project area is surrounded primarily by agricultural land and existing solar development. There are no nearby schools, day care centers, hospitals, retirement homes, or convalescence facilities. Sensitive receptors include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; a bee company operates out of this location), and another single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from Project site). Additionally, three single-family residences are located to the southwest of the intersection of Kubler Road and Mandrapa Road (0.5 mile from project site).

4.4.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to air quality if it would result in any of the following:

a) Conflict with or obstruct implementation of the applicable air quality plan.

b) 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.

c) Expose sensitive receptors to substantial pollutant concentrations.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The ICAPCD CEQA Air Quality Handbook establishes the following four separate evaluation categories (RECON 2018a):

1. Comparison of calculated project emissions to ICAPCD emission thresholds.
2. Consistency with the most recent Clean Air Plan for Imperial County.
3. Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.
4. The evaluation of special conditions which apply to certain projects.

Any development with a potential to emit criteria pollutants below significance levels defined by the ICAPCD is called a "Tier I project," and is considered by the ICAPCD to have less than significant potential adverse impacts on local air quality. For Tier I projects, the project proponent should implement a set of feasible "standard" mitigation measures (enumerated by the ICAPCD) to reduce the air quality impact to an insignificant level. Please refer Table 2.0-6 "Applicant Proposed Measures Included as Part of the Drew Solar Project" in Chapter 2.0 for a discussion of Project design features and measures to address reduction of air emissions. A "Tier II project" is one with emissions that exceed any of the thresholds. Its impact is significant and the project proponent should select and implement all feasible "discretionary" mitigation measures (also enumerated by the ICAPCD) in addition to the standard measures.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

No CEQA Guidelines Appendix G air quality criteria were scoped out as part of the Initial Study.

C. METHODOLOGY

The air quality impact analysis assumes the entire Project to be constructed in a single-phase (Full Build-out Scenario) which would be anticipated to last approximately 18 months. This assumption is a conservative worst-case scenario; if construction activities are phased over a longer period (Phased CUP Scenario, then estimated maximum daily emissions would be less). Because this analysis assumes that construction would begin in 2019 and would occur in a single phase, this analysis does not take credit for reductions that would be increased through the phase-in of cleaner construction equipment and on-road vehicles. Construction emissions are calculated for construction activity based on the construction equipment profile and other factors determined as needed to complete all phases of construction.

Implementation of the Proposed Project would result in air pollutant emissions associated with the construction and operation of the project. Air pollutant emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2. The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the State of California. CalEEMod was developed with the participation of several state air districts including the South Coast AQMD.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in the South Coast AQMD. Where available, parameters were modified to reflect project-specific data.

Air pollutant emissions associated with build-out of the Project site were estimated for the operations year in 2020.

Construction Significance Thresholds

The ICAPCD has also established thresholds of significance for project construction. **Table 4.4-5** provides general guidelines for determining significance of impacts based on the total emissions that are expected from project construction.

TABLE 4.4-5
SIGNIFICANCE THRESHOLDS FOR CONSTRUCTION

Pollutant	Thresholds (pounds/day)
PM10	150
ROG	75
NOX	100
CO	550

Source: RECON 2018a, p. 30.
ROG = reactive organic gas; NOX = oxides of nitrogen;
CO = carbon monoxide; PM10 = particulate matter with an aerodynamic diameter 10 microns or less.

Regardless of project size, all feasible standard measures specified by the ICAPCD for construction equipment and fugitive PM_{10} control for construction activities should be implemented at construction sites. Control measures for fugitive PM_{10} construction emissions in Imperial County are found in ICAPCD Regulation VIII and in the ICAPCD CEQA Air Quality Handbook and are discussed below.

Operational Significance Thresholds

Table 4.4-6 provides general guidelines for determining the significance of impacts based on the total emissions that are expected from project operation established by the ICAPCD.

TABLE 4.4-6
SIGNIFICANCE THRESHOLDS FOR OPERATIONS

Pollutant	Tier I	Tier II
NO_X and ROG	Less than 137 lbs/day	137 lbs/day and Greater
PM_{10} and SO_X	Less than 150 lbs/day	150 lbs/day and Greater
CO and $PM_{2.5}$	Less than 550 lbs/day	550 lbs/day and Greater

Source: RECON 2018a, p. 30.
ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less; lbs/day = pounds per day.

As stated above, Tier 1 projects are required to implement all feasible standard measures specified by the ICAPCD. Tier II projects are required to implement all feasible standard measures as well as all feasible discretionary measures specified by the ICAPCD.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

Impact 4.4.1 Implementation of the proposed Project would increase air pollutant emissions during Project construction and operation. No criteria pollutant thresholds were calculated to be exceeded during either Project construction or operation. Therefore, the Project's potential to conflict with or obstruct an applicable air quality plan is considered a **less than significant impact** during Project construction, operation and decommissioning/reclamation.

FULL BUILD-OUT SCENARIO

All Project Components

As discussed in the Regulatory Framework above, CARB is the lead agency for preparation of the California SIP, which outlines the State measures to achieve NAAQS. CARB delegates responsibility for preparation of SIP elements to local air districts and requires local air districts to prepare Air Quality Attainment Plans outlining measures required to achieve CAAQS.

The ICAPCD is the air district responsible for the Project area. Applicable ICAPCD air quality plans include the SIPs for PM10, PM2.5 and 8-hour Ozone.

The primary concern for assessing consistency with air quality plans is whether the Project would induce growth that would result in a net increase in criteria pollutant emissions that exceed the assumptions used to develop the plan. The basis for the air quality plans is SCAG's population growth and regional vehicle miles traveled projections which are based in part on the land uses established by local general plans. As such, projects that propose development that is consistent with the local land use plans would be consistent with growth projections and air quality plans emissions estimates. In the event that a project would result in development that is less dense than anticipated by the growth projections, the project would be considered consistent with the air quality plans. In the event a project would result in development that results in greater than anticipated growth projections, the project would result in air pollutant emissions that may not have been accounted for in the air quality plans and thus may obstruct or conflict with the air quality plans.

Construction Emissions

Construction-related activities are temporary, short-term sources of GHG emissions. Sources of construction-related emissions include:

- Fugitive dust from grading activities;
- Exhaust emissions from construction equipment;
- Application of chemical coatings (paints, stains, sealants, etc.); and
- Exhaust and fugitive dust emission from on-road vehicles (trips by workers, delivery trucks, and material-hauling trucks).

Table 4.4-7 provides a summary of the criteria pollutant emissions generated by Project construction and operations. CalEEMod output files for Project construction are contained in Attachment 1 of **Appendix D** of this EIR. As noted above, the impact analysis for the Project assumes a conservative worst-case, Full Buildout Scenario where the entire Project would be constructed in a single phase, which would be anticipated to last approximately 18 months.

TABLE 4.4-7
MAXIMUM DAILY CONSTRUCTION AIR POLLUTANT EMISSIONS

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction						
Total Construction	7	54	89	<1	13	6
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	**No**	**No**	**No**	**-**	**No**	**-**

*Source: RECON 2018a. Attachment 1 of **Appendix D** of this EIR. Note: Totals may vary due to independent rounding.*

As shown in **Table 4.4-7**, air pollutant emissions associated with project construction would be less than all applicable ICAPCD significance thresholds. Therefore, the Project construction under the Full- Buildout scenario would not contribute to violations of NAAQS or CAAQS. Likewise, impacts with regard to obstructing or conflicting with the implementation of an air quality standard and would be considered **less than significant** during Project construction under the worst-case Full Build-out Scenario.

Operational Emissions

The land use designation for the Project site is Agriculture which generally accommodates agricultural crop production with one associated single-family residence per 40-acre parcel. Based on trip generation rates from the Institute of Transportation Engineers (ITE) 9th Edition Handbook, a single-family residence would generate approximately 9.52 vehicle trips per day (RECON 2018a, p. 41); additional trips would be associated with agricultural uses. Thus, the existing land use designation over the 762.8 net acres of the Project site would accommodate up to 20 single-family residences which would generate approximately 190 vehicle trips per day in addition to vehicle trips associated with agricultural crop production.

Project operations would generate up to 20 trips per day from all maintenance and security personnel. As compared to the existing land use designation assumed in the SIP, the Project would generate fewer trips and would thereby result in lesser air pollutant emissions. Thus, the project emissions would be accounted for in SCAG's growth projections and the ICAPCD's air quality plans.

Table 4.4-8 provides a summary of the criteria pollutant emissions generated by Project operations. CalEEMod output files for Project operations are contained in Attachment 1 of **Appendix D** of this EIR.

TABLE 4.4-8
MAXIMUM DAILY OPERATIONAL AIR POLLUTANT EMISSIONS

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operation						
Area Sources	<1	0	0	0	0	0
Energy Sources	0	0	0	0	0	0
Mobile Sources	<1	1	1	<1	<1	<1
Total Operations	<1	<1	1	<1	<1	<1
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: RECON 2018a. Attachment 1 of **Appendix D** of this EIR. Note: Totals may vary due to independent rounding.*

As shown, maximum daily emissions during operations would not exceed any criteria emission threshold. Therefore, the Project would be consistent with the air quality plans. Likewise, impacts with regard to obstructing or conflicting with the implementation of an air quality plan and would be considered **less than significant** in association with Project operations under the worst-case Full Build-out Scenario.

Decommissioning/Reclamation

Reclamation activities would increase air pollutant emissions as a result of earth-moving activities and exhaust from diesel equipment. Activities would include dismantling and removal of all structures and infrastructure on the Project site. Both dust and exhaust associated with reclamation activities would be temporary and similar to those generated during construction. All reclamation activities would implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements in effect at the time of reclamation. It is also anticipated that the Best Available Control Technologies (BACTs) would be more stringent at the time of Project decommissioning. Thus, reclamation activities would result in a **less than significant impact** with regard to conflicting with or obstructing an applicable air quality plan.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant

Impact 4.4.2 The proposed Project is consistent with ICAPCD plans and would not exceed pollutant thresholds during construction, operation and reclamation. Therefore, the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant is considered **less than significant** under the worst-case Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

As discussed under the Regulatory Framework, (National Ambient Air Quality Standards [NAAQS] and the California Ambient Air Quality Standards [CAAQS]) the Project Site is in non-attainment areas for NAAQS and CAAQS for ozone and particulate matter. The majority of regional PM_{10} and $PM_{2.5}$ emissions originate from dust stirred up by wind or by vehicle traffic on unpaved roads (ICAPCD 2009). The Project is located in an area defined by the ICAPCD's *High Wind Exceptional Fugitive Dust Mitigation Plan*

as a "high wind corridor" that is subject to periodic strong westerly winds that create wind-dust channels. Thus there, there is an increased potential for high winds to entrain fugitive dust during construction and operation of the Project (Blondell 2019). Other PM_{10} and $PM_{2.5}$ emissions originate from grinding operations, combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Ozone is not emitted directly but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Approximately 88 percent of NO_X and 40 percent of ROG regional emissions originate from on- and off-road vehicles (ICAPCD 2010). Other major sources include solvent evaporation and miscellaneous processes such as pesticide application.

Construction

As discussed under Impact 4.4.1, the Project would be consistent with ICAPCD air quality plans. The proposed Project would generate air pollutant emissions during Project construction. However, as shown in **Table 4.4-7**, no criteria pollutant thresholds were calculated to be exceeded during Project construction and construction would not contribute to violations of NAAQS or CAAQS. Therefore, the Project would not result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment of federal or state standards during construction under the worst-case Full-Buildout Scenario.

Operation

As discussed under Impact 4.4.1, the Project would be consistent with ICAPCD air quality plans. The proposed Project would generate air pollutant emissions during Project operation. However, as shown in **Table 4.4-8**, no criteria pollutant thresholds were calculated to be exceeded during Project operation and operational emissions would not contribute to violations of NAAQS or CAAQS. Therefore, the Project would not result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment of federal or state standards during operations under the worst-case Full-Buildout Scenario.

Reclamation/Decommissioning

As noted under the discussion of Impact 4.4.1, all reclamation activities would implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements in effect at the time of reclamation. It is also anticipated that the Best Available Control Technologies (BACTs) would be more stringent at the time of Project decommissioning. Therefore, Project reclamation would not contribute to violations of NAAQS or CAAQS. Moreover, the Project's potential to result in a cumulatively considerable net increase of any criteria pollutant is considered **less than significant** during decommissioning/reclamation under the worst-case Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Impact 4.4.3 The proposed Project would result in short-term diesel exhaust emissions during construction and decommissioning/reclamation. However, diesel exhaust operational emissions would be very low. Based on the worst-case Full Buildout Scenario, exposure of sensitive receptors in the vicinity of the Project Site would be for a limited duration and would not exceed the diesel particulate matter exposure threshold. Therefore, sensitive

receptor exposure to substantial pollutant concentrations is considered a **less than significant impact** under the worst-case Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

Construction and Decommissioning/Reclamation-Related Diesel Particulate Matter

Construction and reclamation of the Project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Particulate exhaust emissions from diesel-fueled engines (diesel PM or DPM) were identified as a TACs by CARB in 1998. Project construction would result in the generation of DPM emissions from the use of off-road diesel construction equipment during site preparation and facility installation. Other lesser construction-related sources of DPM include material delivery trucks.

Under the Full-Buildout Scenario, the Project would occur over an approximate 18-month period. The dose of DPM to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time.

According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30- year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor is estimated at 18 months, the exposure would be five percent of the total exposure period used for health risk calculation.

Compared to typical construction projects, construction of solar generation facilities involves fewer pieces of heavy-duty diesel construction equipment which operate over larger areas; thus construction equipment is rarely proximate to any specific receptor for extended period of time. Due to the limited intensity of construction (as well as reclamation), DPM generated by Project construction activities is not expected to create conditions where the incremental cancer risk exceeds the ICAPCD's ten in one million significance threshold. Therefore, Project construction and reclamation would not expose sensitive receptors to a substantial pollutant concentration. Likewise, localized air quality impacts from construction and decommissioning/reclamation-related DPM emissions would be **less than significant** under the worst-case Full Build-out Scenario.

On-Site Operation Sources

As discussed under Impact 4.4.2, the construction and operation of the Project would not result in substantial criteria pollutant emissions. Solar generation facilities are not known to result in substantial air toxic emissions. Localized air quality impacts from Project operations would be **less than significant**.

Off-Site Operation Sources – CO Hot Spots

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses. CO hot spots due to traffic almost exclusively occur at signalized intersections that operate at a Level of Service (LOS) E or below. Projects may result in or contribute to a CO hot spot if they worsen traffic flow at signalized intersections operating at LOS E or F.

The Project is not in proximity to a signalized intersection and would not generate substantial traffic (i.e. approximately 20 trips per day). Therefore, the Project would not cause or contribute to a CO hot spot. Impacts would be **less than significant** under the worst-case Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Result in Emissions Affecting a Substantial Number of People

Impact 4.4.4 Use of diesel equipment during Project construction, operation and decommissioning/reclamation activities could result in temporary emissions of adverse odors. This is considered a **less than significant impact** under the Full Build-out Scenario.

FULL BUILD-OUT SCENARIO

All Project Components

Construction, Operation and Decommissioning/Reclamation Activities

The potential for emissions leading to an odor impact is dependent on a number of variables including the nature of the emissions source, distance between the receptor and odor source, and local meteorological conditions. Project construction would result in the emission of diesel fumes and exhaust from vehicles and heavy equipment. Diesel emissions and exhaust odors are highest near the source and would quickly dissipate off the site.

Agricultural uses are located on the Project site and properties to the north, west, and southwest; associated buildings include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from project site; a bee company operates out of this location), and another single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from project site). Additionally, three single-family residences are located to the southwest of the intersection of Kubler Road and Mandrapa Road (0.5 mile from project site). Any eiesel emissions and exhaust odors associated with construction activities would be transient and would cease upon completion. For these reasons, construction-related odor impacts would be **less than significant** during Project construction, operation and decommissioning/reclamation activities under the Full Build-out Scenario.

Solar generation facilities are not known to generate emissions of any kind during operation. Project operation would include inspection, maintenance, and washing activities. These processes are not known to generate emissions. Therefore, operational emissions resulting in odor impacts would also be **less than significant** under the Full Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.4.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for air quality is the geographic scope of Imperial County which is within the SSAB.. Currently, Imperial County is in moderate non-attainment for $PM_{2.5}$ and serious attainment for PM_{10}.

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. Cumulative projects within the SSAB include any existing, recently approved, proposed, and reasonably foreseeable development envisioned by the Imperial County General Plan. A list of proposed, approved and reasonably foreseeable projects in the region is provided in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, of this Draft EIR.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Air Quality Impacts – Violate Air Quality Standard/Cause Air Quality Violation

Impact 4.4.5 The proposed Project would generate criteria pollutant emissions during construction. However, the short-term construction emissions exceedances of ICAPCD thresholds would be mitigated through compliance with ICAPCD Regulation VIII. Operational emissions would not exceed ICAPCD thresholds. Therefore, the proposed Project would result in a **less than cumulatively considerable impact** with regard to violating an air quality standard under both the Full Buildout Scenario and Phased CUP Scenario.

Construction

Many of the projects listed in Table 3.0-1 are large scale renewable energy projects. As such, the majority of air emissions from these projects would be generated during construction with drastically reduced emissions occurring during operations and maintenance.

The construction phase of the proposed Project may contribute to a net increase in criteria pollutants PM_{10}. As noted above, the Imperial Valley is classified as non-attainment for federal and state PM_{10} standards. Thus, the Project's contribution to existing criteria pollutants could be cumulatively considerable without mitigation. However, compliance with ICAPCD Regulation VIII would reduce construction-phase PM_{10} emissions to less than significant levels, resulting in a **less than cumulatively considerable contribution** to existing criteria pollutants under both the Full Buildout Scenario and Phased CUP Scenario. In addition, all other cumulative projects are required to comply with Regulation VIII and would also be assumed to implement mitigation measures to reduce their individual construction air quality emissions. In this way, each individual cumulative project would reduce construction emissions on a project-by-project basis resulting in less than cumulatively considerable contributions to existing criteria pollutants. Because the proposed Project would not exceed any criteria emission threshold during construction, operation and reclamation (refer to Tables 4.4-8 and 4.4-9), and other cumulative projects would be required to mitigate construction emissions on a project-by-project basis, emissions resulting in a violation of an air quality standard would be reduced to **less than cumulatively considerable** under both the Full Buildout Scenario and Phased CUP Scenario.

Operation

Emissions resulting from operations of the Project for all criteria pollutants would be limited and very low in number (limit operational maintenance, periodic panel washing). Such levels of emissions should not cause localized exceedances or contribute cumulatively to existing exceedances of the State or federal

ozone and PM_{10} standards. In additional, the applicant would need to submit an Operational Dust Control Plan to reduce dust during operation. Therefore, the proposed Project would result in a **less than cumulatively considerable contribution** to air quality standard violations during operations under both the Full Buildout Scenario and Phased CUP Scenario. Moreover, operation of the proposed Project, in combination with other cumulative projects identified in Table 3.0-1, would result in **less than cumulatively considerable** impacts to air quality standards and air quality violations under both the Full Buildout Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning/reclamation activities would increase air pollutant emissions as a result of earth-moving and exhaust from diesel equipment. The dust and exhaust generated would be temporary in nature and are anticipated to be similar to levels generated during construction. However, it is anticipated that regulatory compliance similar to or greater than those currently in place (e.g. Regulation VIII) would be required at the time of reclamation. Likewise, BACTs are also anticipated to be more stringent, and cleaner burning equipment is anticipated to be available, at the time of Project decommissioning/reclamation (i.e. 40 years in the future). In addition, all other cumulative projects with dust and diesel-generated emissions would be required to comply with applicable regulations and BACTs to reduce their individual construction air quality emissions. In this way, each individual cumulative project would reduce decommissioning/reclamation emissions on a project-by-project basis resulting in a **less than cumulatively considerable contribution** to identified criteria pollutants under both the Full Buildout Scenario and Phased CUP Scenario. Because the proposed Project and other cumulative projects would reduce reclamation emissions on a project-by-project basis, emissions resulting in a violation of an air quality standard would be reduced to **less than cumulatively considerable** under both the Full Buildout Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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SECTION 4.5
GREENHOUSE GASES

UNDERSTANDING GLOBAL CLIMATE CHANGE

Global climate change is a change in the average weather of the Earth which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases (GHGs), influence the amount of heat trapped in the earth's atmosphere. Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is the collective of human actions taking place throughout the world that contributes to climate change, it is quintessentially a global or cumulative issue.

GREENHOUSE GASES OF PRIMARY CONCERN

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP.

GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 25; this means that CH_4 has 25 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as "[T]he cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas" (EPA 2010). GHG emissions estimates are typically represented in terms of metric tons (MT) of CO_2 equivalent (CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. **Table 4.5-1** summarizes some of the most common GHGs. All of the gases listed are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the Project due to the combustion of fossil fuels in vehicles (including construction), from electricity

generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and nitrous oxide (N_2O) would be emitted from these activities.

TABLE 4.5-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO2)	50–200	1	1
Methane (CH4)*	12.4	28	84
Nitrous oxide (N2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF4	50,000	6,630	4,880
C2F6	10,000	11,100	8,210
C3F8	2,600	8,900	6,640
C4F10	2,600	9,200	6,870
c-C4F8	3,200	9,540	7,110
C5F12	4,100	8,550	6,350
C6F14	3,100	7,910	5,890
SF6	3,200	23,500	17,500

Source: RECON 2018a, p. 12.

4.5.1 REGULATORY FRAMEWORK

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the Project.

A. FEDERAL

U.S. Environmental Protection Agency

The U.S. EPA has many federal level programs and Projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the Project is the Energy Star program.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products that represent the leading edge in energy-efficient products in 2013 (RECON 2018a, p. 23).

Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy standards established by National Highway Traffic Safety Administration determine the fuel efficiency of certain vehicle classes in the United States. Current Corporate Average Fuel Economy standards require vehicle manufacturers of passenger cars and light-duty trucks to achieve an average fuel economy of 35.5 miles per gallon by 2016 and an average fuel economy of 54.5 miles per gallon by 2025. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

B. STATE

Statewide GHG Emission Targets

Executive Order S-3-05 – Statewide GHG Emission Targets

This Executive Order (EO) establishes the following GHG emissions reduction goals for the state of California:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the Secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years since then.

Executive Order B-30-15 – 2030 Statewide GHG Emission Goal

EO B-30-15, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California to reduce GHG emissions 40 percent below 1990 levels by 2030. This EO also directs all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directs CARB to update its Climate Change Scoping Plan to address the 2030 goal. CARB released the update to the Climate Change Scoping Plan in November 2017 discussed below.

Assembly Bill 32 – California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006 and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

Senate Bill 32 – California Global Warming Solutions Act of 2006

Approved in September 2016, SB 32 updates the California Global Warming Solutions Act of 2006. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs. "Social costs" are defined as "an estimate of the

economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

Implementation of SB 32 was contingent upon adoption of AB 197, State Air Resources Board: greenhouse gases: regulations, prior to January 1, 2017. AB 197 includes certain administrative changes to CARB and directs CARB to update the State Scoping Plan. AB 197 was adopted in September 2016.

Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Original Scoping Plan). CARB has periodically revised GHG emissions forecasts and prepared supplemental revisions to the Original Scoping Plan. In 2014, CARB adopted the comprehensive First Update to the Climate Change Scoping Plan: Building on the Framework (First Update to the Scoping Plan) (RECON 2018a, p. 24). The First Update to the Scoping Plan ". . . highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050" (RECON 2018a, p. 24). The First Update to the Scoping Plan found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and notes that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals (RECON 2018a, p. 24).

In conjunction with the First Update to the Scoping Plan, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (RECON 2018a, p. 25). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction goal.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (RECON 2018a, p. 25). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on- road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (RECON 2018a, p. 25). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewable Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), and the Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. As discussed below, CARB continues to adjust the cap of the Cap-and-Trade Program to achieve emission levels consistent with 2020 statewide GHG emissions reduction targets established by AB 32.

Cap-and-Trade Program

The California Cap-and-Trade Program began in January 2013 and is authorized to continue until the end of 2030. The program is a market-based regulation that is designed to reduce GHG emissions associated major sources by setting a firm cap on overall GHG emissions from covered entities and

gradually reducing that cap over time. The program defines major sources as facilities that generate more than 25,000 MT CO_2E per year, which includes many electricity generators, refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants. Each entity covered by the program is allocated specific GHG emission allowances and is able to buy or sell additional offset credits to other major sources-covered entities. Thus, the program employs market mechanisms to cost-effectively reduce overall GHG emissions. Throughout the program's duration, CARB continues to adjust the overall GHG emissions cap to achieve emission levels consistent with 2020 statewide GHG emission reduction targets established by AB 32 and the 2030 statewide GHG emission reduction targets established by SB 32.

Regional Emissions Targets – SB 375

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

The Southern California Association of Governments (SCAG) adopted the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life* (2016 RTP/SCS) in April 2016. The main goal of the 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. CARB's targets for the SCAG region call for an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035. The overarching strategy of the 2016 RTP/SCS is create more compact communities in existing urban areas, providing neighborhoods with efficient and plentiful public transit, abundant and safe opportunities to walk, bike and pursue other forms of active transportation, and preserving more of the region's remaining natural lands.

Pursuant to Government Code Section 65080(b)(2)(K), a Sustainable Communities Strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a City's or County's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

California Building Standards Code (Title 24)

The California Code of Regulation, Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including, plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility and so on. Of particular relevance to GHG emissions reductions are the CBC's energy efficiency and green building standards as outlined below.

Part 6 – Energy Code

Title 24, Part 6, of the California Code of Regulations is the Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is

updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). By reducing California's energy consumption, emissions of statewide GHGs may also be reduced. The previous Energy Code, known as the 2013 Energy Code, became effective July 1, 2014.

The current version of the Energy Code, known as the 2016 Energy Code, became effective January 1, 2017. The 2016 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. The CEC's preliminary estimates indicate that the 2016 Energy Code would achieve a 28 percent reduction in home energy use and a 5 percent reduction in non-residential energy use when compared to the previous 2013 Energy Code (CEC 2015). The CEC has further indicated that the 2020 Energy Code will require new residential developments to achieve zero-net energy use.

Part 11 – California Green Building Standards Code

The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in Model Water Efficient Landscape
- Ordinance emergency standards
- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

Other State Measures

Other related regulations adopted by California are summarized below.

- Advanced Clean Cars Program (i.e., Pavley I and Low Emission Vehicle III) – A set of vehicle standards that require light-duty cars and trucks to have reduced GHG emissions.
- Low Carbon Fuel Standard – A statewide goal requiring a 10 percent reduction in the carbon intensity of transportation fuels by 2020.

- The RPS – The California RPS program was established in 2002 by Senate Bill (SB) 1078 (Sher, 2002) with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2006 under SB 107 (Simitian, 2006), which requires that the 20% mandate be met by 2010. In April 2011, SB 2 (1X) (Simitian) was signed into law, which codified a 33% RPS requirement to be achieved by 2020. In 2015, SB 350 (de León, 2015) was signed into law, which mandated a 50% RPS by December 31, 2030. SB 350 include interim annual RPS targets with three-year compliance periods. In addition, SB 350 requires 65% of RPS procurement must be derived from long-term contacts of 10 or more years. In 2018, SB 200 (de León, 2018) was signed into law, which again increases the RPS to 60% by 2030 and requires all state's electricity to come from carbon-free resources by 2045. SB 100 became effective on January 1, 2019.
- AB 341, Solid Waste Diversion – The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of measures in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates that 75 percent of all solid waste generated in the state be reduced, recycled, or composted by 2020 regardless of the source.

C. LOCAL

Imperial County Air Pollution Control District (ICAPCD)

The CARB's Scoping Plan states that local governments are "essential partners" in the effort to reduce GHG emissions (CARB 2008). The Scoping Plan also acknowledges that local governments have broad influence and, in some cases, exclusive jurisdiction over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce GHG emissions rely on local government actions. 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 a formal threshold is approved.

ICAPCD Rule 903

ICAPCD Rule 903 applies to any stationary source that would have the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants. In 2011, ICAPCD amended Rule 903 to add GHGs to the list of regulated pollutants. As part of the revised rule, stationary sources that do not exceed the *de minimis* emissions level of 20,000 tons CO_2e per year in a 12-month period would not need to meet recordkeeping and reporting requirements. The ICAPCD has no regulations or additional guidelines relative to GHG emissions for residential, commercial, or industrial projects.

Imperial County General Plan

The Imperial County General Plan Renewable Energy and Transmission Element was adopted in October 2015. As stated in the element, the benefits of renewable energy development include reduction in potential GHG by displacing fossil-fuel-generated electricity with renewable energy, which does not add to the greenhouse effect; contribution towards meeting the state's RPS mandate; and minimization of impacts to local communities, agriculture and sensitive resources (RECON 2018a, p.28).

The Imperial County General Plan does not contain any goals, objectives, policies or programs directly pertaining to global climate change (GCC) or GHG.

4.5.2 ENVIRONMENTAL SETTING

A. GLOBAL CLIMATE CHANGE

GCC is a change in the average weather of the earth that is measured by temperature, wind patterns, precipitation, and storms over a long period of time. The baseline, against which these changes are measured, originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed an unprecedented acceleration in the rate of warming during the past 150 years. GCC is a documented effect. Although the degree to which the change is caused by anthropogenic (human activity) sources is still under study, the increase in warming has coincided with the global industrial revolution which has seen the widespread reduction of forests to accommodate urban centers, agriculture, and the use of fossil fuels (primarily the burning of coal, oil, and natural gas for energy). Most scientists agree that anthropogenic sources are a main, if not primary, contributor to the GCC warming.

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of GCC. In general, increases in the ambient global temperature resulting from increased GHGs is anticipated to result in rising sea levels which could threaten coastal areas through accelerated coastal erosion; threats to levees and inland water systems; and disruption to coastal wetlands and habitat.

B. EXISTING GREENHOUSE GAS EMISSIONS

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons (MMT) of CO_2E. **Table 4.5-2** shows the estimated statewide GHG emissions for the years 1990, 2005, and 2015.

TABLE 4.5-2
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR IN 1990, 2008, AND 2015

Emissions Sector	1990 Emissions in MMT CO2E (% total) [1, 2]	2005 Emissions in MMT CO2E (% total) [2, 3, 4]	2015 Emissions in MMT CO2E (% total) [2, 3, 4]
Agriculture	23.4 (5%)	34.52 (7%)	34.65 (8%)
Commercial	14.4 (3%)	14.27 (3%)	14.75 (3%)
Electricity Generation	110.6 (26%)	107.85 (22%)	83.67 (19%)
High Global Warming Potential	--	9.42 (2%)	19.05 (4%)
Industrial	103.0 (24%)	95.45 (20%)	91.71 (21%)
Recycling and Waste	--	7.78 (2%)	8.73 (2%)
Residential	29.7 (7%)	27.98 (6%)	23.17 (5%)
Transportation	150.7 (35%)	184.48 (38%)	164.63 (37%)
Forestry (Net CO2 flux)	*-6.5*	--	--
Not Specified	1.3	--	--
TOTAL	**426.6**	**481.75**	**440.36**

Source: RECON 2018a, p. 15.
MMT CO2E = million metric tons of CO2 equivalent
1 1990 data was retrieved from the CARB 2007 source.

[2] *Quantities and percentages may not total properly due to rounding.*

[3] *2005 and 2015 data was retrieved from the CARB 2017a source.*

[4] *Reported emissions for key sectors. The inventory totals for 2005 and 2015 did not include Forestry or Not Specified sources.*

As shown in **Table 4.5-2**, statewide GHG source emissions totaled 426.6 MMT CO_2E in 1990, 481.75 MMT CO_2E in 2005, and 440.36 MMT CO_2E in 2015. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. However, transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

4.5.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

As stated previously, the CEQA Guidelines allow Lead Agencies to establish significance thresholds for their respective jurisdictions. These significance thresholds may be adopted after considering thresholds of significance adopted or recommended by other public agencies or experts.

No GHG emission significance threshold has been adopted by the Imperial County APCD for land development projects. Thus, in the absence of a threshold of significance for GHG emissions that has been adopted in a public process following environmental review, this analysis considers guidance promulgated by other agencies.

The County is a member of SCAG, which is composed of several different counties including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Air districts responsible for managing air quality within the SCAG boundaries include the Antelope Valley Air Quality Management District, the Mojave Desert Air Pollution Control District, South Coast Air Pollution Control District, and the Ventura County Air Pollution Control District. This analysis conservatively uses SCAQMD screening level thresholds.

SCAQMD

The SCAQMD published its *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans* in 2008 (SCAQMD 2008). The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. The five tiers are:

- **Tier 1** – The project is exempt from CEQA.
- **Tier 2** – The project is consistent with an applicable regional GHG emissions reduction plan.
- **Tier 3** – Project GHG emissions represent an incremental increase below, or mitigated to less than Significance Screening Levels, where screening levels are developed based on a 90 percent emissions capture rate
  - 3,000 MT CO_2E is the Residential/Commercial Screening Level
  - 10,000 MT CO_2E is the Permitted Industrial Screening Level
- **Tier 4** – The project achieves performance standards, where performance standards may include
  - Option #1: Uniform Percent Emission Reduction Target Objective (e.g., 30 percent) from Business as Usual (BAU) by incorporating Project Design Features and/or Implementing Emissions Reduction Measures.
  - Option #2: Early Implementation of Applicable AB 32 Scoping Plan Measures.

- Option #3: Achieve sector-based standard (e.g. pounds per person, pounds per square foot, etc.)

- **Tier 5** – Off-sets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition

Consistent with the SCAQMD guidance, the recommended/preferred tiered approach for most land use development projects in SCAQMD jurisdiction is assessment against the applicable screening levels. As the project is not exempt from CEQA and is not part of an approved local plan, project emissions would initially be assessed against a 3,000 MT CO_2E screening level. This 3,000 MT CO_2E screening level is intended to exempt projects that are too small to have significant impacts from further analysis.

B. METHODOLOGY

Implementation of the proposed Project would result in GHG emissions associated with the construction and operation of the project. GHG emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (RECON 2018a, p. 32). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the State of California. CalEEMod was developed with the participation of several state air districts including the SCAQMD.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in SCAQMD. Where available, parameters were modified to reflect project-specific data.

GHG emissions associated with build-out of the project site were estimated for the operations year in 2020. Additionally, GHG emissions were modeled in year 2030 to parallel the year of the state GHG reduction target established by SB 32.

Based on Guidance from the South Coast Air Quality Management District (SCAQMD), total construction GHG emissions resulting from a project should be amortized over a period of 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (RECON 2018a, p. 33).

No GHG emission significance threshold has been adopted by the Imperial County APCD. Project GHG emissions were evaluated against the SCAQMD screening level of 3,000 MT CO_2E.

Water Use

Water use for fugitive dust control would have indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, treat, and distribute water. Construction of the project would be anticipated to require approximately 1,200 acre-feet of water for fugitive dust control. Either potable water or reclaimed water may be used for fugitive dust control. This analysis conservatively assumes potable water is used and thus accounts for energy used for supply, treatment, and distribution of potable water. Water use emissions are estimated based on regional efficiency factors for water supply, treatment, and distribution.

Operation-related Emissions

Operation-related sources of air pollutant emissions include the direct emission of criteria pollutants. Common direct emission sources include mobile sources such as project-generated traffic, and area sources such as the use of landscaping equipment. In addition to these direct emission sources, GHG emissions are also generated indirectly as a result of project electricity use, water use, and solid waste generation.

Electricity Demand/Generation

Energy use emissions typically include indirect GHG emissions associated with the generation of electricity from fossil fuels off-site in power plants. Project electricity demand for security lighting and O&M buildings would be extremely limited as compared to the electricity generated by the Project solar panels; the Project would be a net generator of clean, renewable energy that would reduce GHG emissions associated with generation of electricity from fossil fuels at other power plants.

At this time, it is not known whether electricity generated by the Project would be sold to the IID, San Diego Gas & Electric, or a different utility provider. As the Project Site is within IID's service area, IID-specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) were used to estimate the GHG emission reductions from the Project.

As discussed, the state mandate for renewable energy is 33 percent by 2020 and 50 percent by 2030; however, the energy-intensity factors included in CalEEMod only represent an 8.3 percent procurement of renewable energy (RECON 2018a, p. 38). Project emission estimates were modeled accounting for reductions achieved by 33 percent renewable energy procurement in 2020 and 50 percent renewable energy procurement in 2030. **Table 4.5-3** shows IID energy intensity factors used in modeling.

TABLE 4.5-3
IMPERIAL IRRIGATION DISTRICT ENERGY INTENSITY FACTORS

Gas	2010 Factors (lbs/MWh)	2020 Factors (lbs/MWh)	2030 Factors (lbs/MWh)
Carbon Dioxide (CO2)	1,270.90	956.99	740.93
Methane (CH4)	0.029	0.022	0.017
Nitrous Oxide (N2O)	0.006	0.005	0.003

Source: RECON 2018a, p. 38.

Water Use

The water use and wastewater generation of a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat water and wastewater. In addition, wastewater treatment can also emit both CH_4 and N_2O.

During project operation, water would be used for domestic use, fire protection, and to wash the solar modules. Operation of the Project would be anticipated to require approximately 60 acre-feet of water per year. The project would require less water than existing agricultural use. This analysis conservatively assesses the gross water use of the Project. Water use emissions are estimated based on regional efficiency factors for water supply, treatment, and distribution.

Solid Waste Generation

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. Solar farms are not known to generate substantial quantities of biodegradable waste. As such, solid waste emissions would not represent a measurable increase in GHG emissions.

C. PROJECT/CUMULATIVE IMPACTS AND MITIGATION MEASURES

Generation of Greenhouse Gas Emissions

Impact 4.5.1 The proposed Project would generate GHG emissions during construction and reclamation activities, primarily related to emissions from construction equipment. Operational emissions would occur to a lesser degree in relation to the use of maintenance equipment. Impacts resulting from Project-generated GHGs are considered **less than significant**.

Construction, Operation and Reclamation

Table 4.5-4 provides a summary of the GHG emissions generated by the project construction, operation, and reclamation. CalEEMod output files for Project operation are contained in Attachment 1 of **Appendix D** of this EIR.

TABLE 4.5-4
ANNUAL GHG EMISSIONS

Emission Source	GHG Emissions (MT CO2E)	
Construction		
Mobile and Equipment	1,391	
Water Use	1,890	
Total Construction	3,281	
Amortized Construction	109	
Operation	*Year 2020*	*Year 2030*
Vehicles	53	43
Energy Use	-74,195	-57,424
Area Sources	<1	<1
Water Use	94	73
Solid Waste Disposal	<1	<1
Gross Operation	121	95
Total Operation	**-74,048**	**-57,308**
Total Emissions	*Year 2020*	*Year 2030*
Gross Construction, Operation, and Reclamation	**366**	**335**
Net Construction, Operation, and Reclamation	**-73,829**	**-57,089**

*Source: Attachment 1 of the Air Quality and Greenhouse Gas Analysis included in **Appendix D** of this EIR.*
NOTE: Totals may vary due to independent rounding.

As shown, the Project's combined gross construction, operational, and reclamation GHG emissions would be 366 MT CO_2E in 2020; accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the project would result in a net total reduction of 73,829 MT CO_2E in 2020.

The Project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures, such as increased fuel efficiency standards associated with the Advanced Clean Cars Program and reduced fossil fuel electricity generation in accordance with the State's RPS mandate. The combined gross construction, operations, and reclamation emissions would be 335 MT

CO_2E in 2030. Accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the Project would result in a 57,089 MT CO_2E reduction in 2030.

As discussed previously, the SCAQMD's 3,000 MT CO_2E screening level is appropriate for exempting projects that are too small to have significant impacts from further analysis. As project emissions would be less than the 3,000 MT CO_2E screening level, GHG emissions impacts would be **less than significant**.

Under CEQA an impact is a "substantial, or potentially substantial, adverse change in the environment…". This analysis concludes that Project GHG emissions would result in less than significant impacts under CEQA. The Project would be anticipated to offset GHG emissions through renewable energy generation and thereby result in environmental benefits by lessening the impacts of global climate change. The Project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures. As emissions do not exceed the SCAQMD's screening threshold, the Project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Impacts resulting from Project-generated GHGs are considered **less than significant** during construction, operation and reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Conflict with an Applicable Plan, Policy, or Regulation Adopted to Reduce Greenhouse Gas Emissions

Impact 4.5.2 The Project would help promote California's GHG policies by creating renewable energy resources and would not exceed applicable GHG screening levels. Therefore, the proposed Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Moreover, Project conflicts with an applicable plan, policy, or regulation adopted to reduce GHG emissions are considered **less than significant** during construction, operation and reclamation.

Construction, Operation and Reclamation

No GHG emission significance threshold has been adopted by the Imperial County APCD. Project GHG emissions were evaluated against the SCAQMD screening level of 3,000 MT CO_2E. The Project's combined gross construction, operation, and reclamation GHG emissions would be 366 MT CO_2E in 2020; accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the project would result in a net total reduction of 73,829 MT CO_2E in 2020. The project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures. As emissions do not exceed the SCAQMD's screening threshold, the project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Impacts would be less than significant.

EO S-3-05 and B-30-15 establish the GHG emission reduction policy of the Executive Branch for the state. AB 32 codified the 2020 goal of EO S-3-05 and launched the Original Scoping Plan (RECON 2018a, p. 45) that outlined the reduction measures needed to reach these goals. SB 32 codified the 2030 goal of B-30-15 and directed CARB to prepare a subsequent update to the Scoping Plan.

Subsequent to the adoption of AB 32 and the development of the Original Scoping Plan, several state agencies, including CARB, CEC, California Public Utilities Commission, Department of Resources Recycling and Recovery, California Department of Transportation, California Department of Forestry and Fire, the Department of Water Resources, the Department of Food and Agriculture, and the Department of Goods and Services have developed regulatory and incentive programs to reduce GHG emissions statewide. Policies related to the California Department of Food and Agriculture and California Department of Forestry and Fire are primarily related to the agriculture business and forest and rangeland management.

The Project would not have a direct or indirect effect on the strategies outlined in the State Scoping Plan or subsequent policies adopted by state agencies. In fact, the Project would promote the state's GHG policies by creating additional renewable energy resources. Project GHG emissions would not exceed applicable screening levels and therefore would be too small to have significant impact on achievement of statewide GHG emissions reduction targets. Therefore, Project conflicts with an applicable plan, policy, or regulation adopted to reduce GHG emissions are considered **less than significant** during construction, operation and reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

SECTION 4.6

GEOLOGY AND SOILS

This section describes federal, state and local regulations applicable to geology and soils and paleontological resources. It also describes the environmental setting regarding the soils, seismicity, geologic and paleontological conditions on and near the Project site. A discussion of geology and soil and paleontological impacts is also provided, and mitigation measures are identified to address potential impacts as pertinent to the Project site.

The information and analysis in this section is based on the *Soil Survey of Imperial County, California, Imperial Valley Area* (USDA 1981) and the *Preliminary Geotechnical and GeoHazards Report: Drew Solar Site NWC Pulliam Road and Hwy 98, Calexico, California*, prepared by LandMark Consultants, Inc. (LandMark 2018). The Project-specific geotechnical report is provided as **Appendix E** on the attached CD of Technical Appendices to this EIR. Information regarding paleontological resources from the neighboring Centinela Solar Energy Project EIR (Imperial County 2011) was consulted for the analysis in this section.

For the purposes of analyzing geology and soils impacts, the Full-Buildout Scenario represents the greatest amount of construction activity resulting in the greatest potential for geology and soils impacts to occur over the Project site (e.g. erosion) over a period of 18 months.

4.6.1 REGULATORY FRAMEWORK

A. STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Zoning Act (Chapter 7.5, Division 2, Public Resources Code, State of California, effective May 4, 1975) (Act) provides a statewide mechanism for reducing losses from surface fault rupture. The Act promotes public safety by prohibiting siting of most structures for human occupancy across traces of active faults that constitute a hazard to structures from surface faulting or fault creep. In accordance with the Act, the Office of State Geologist delineated Special Study Zones that encompass potentially and recently active traces of four major faults: San Andreas, Calaveras, Hayward and San Jacinto. The County of Imperial is responsible for enforcing the Act by ensuring that homes, offices, hospitals, public buildings, and other structures for human occupancy that are built on or near active faults or within a special study zone, are designed and constructed in compliance with the County of Imperial Codified Ordinance (Imperial County 2007). The southwest corner of the Project site (APN 052-170-067) lies within a State of California Alquist-Priolo Earthquake Fault Zone (LandMark 2018, p. 6).

California Building Code

Title 24 of the California Code of Regulations (CCR), commonly referred to as the California Building Code (CBC), is published and updated by the California Building Standards Commission. The most recent version of the CBC (2016) went into effect as of January 1, 2017. Cities and counties are required by state law to enforce the CBC. The CBC applies to all building occupancies, and related features and equipment throughout the State of California, and contains requirements related to the structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety, and accessibility. Among other elements, Chapter 16 of the CBC dictates the design and construction standards applicable to resist seismic shaking on structures. The Project must be designed in compliance with the 2016 CBC.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA), set forth at Public Resources Code section 2690 *et seq*., was enacted to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, or other hazards caused by earthquakes. Pursuant to the SHMA, the California

Department of Conservation, California Geological Survey (CGS) has delineated seismic hazard zones. Imperial County has not yet been mapped by the CGS. Therefore, the Project site is not within a designated seismic hazard zone.

Seismic Hazards Mapping Regulations (Seismic Regulations) have also been adopted requiring preparation of a project-specific geotechnical report evaluating seismic hazards and recommending appropriate mitigation. (California Code of Regulations, title 14, §3720 *et seq.*). The State Mining and Geology Board adopted Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California (adopted September 11, 2008) ("Special Publication 117A"), which establishes standards for the evaluation of seismic hazards other than surface fault rupture and also provides recommended mitigation measures. Special Publication 117A provides that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy. Special Publication 117A expressly contemplates that a site-specific geotechnical report might be prepared before or after CEQA approval.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) acknowledges that mineral extraction is essential to California's economy and that the reclamation of mined lands after extraction is necessary to prevent or minimize adverse effects on the environment and to protect the public health and safety. The SMRA also classifies mineral resources in the State and provides information to local governments. Local governments are responsible for designating lands that contain regionally significant mineral resources in their local General Plans for preserving such areas from encroachment or conversion to other uses. The law has resulted in the preparation of Mineral Land Classification Maps delineating Mineral Resource Zones (MRZ) for aggregate resources (sand, gravel, and stone). Mining occurs throughout the County of Imperial as shown on the Imperial County Existing Mineral Resources map (Imperial County 2015e). None of the solar field site parcels are located in an area with any MRZ zones.

Paleontological Significance Criteria

Paleontological resources are the fossil remains of animals and plants from the past. CEQA Guidelines Appendix G provides a checklist of questions that a lead agency should typically address if relevant to a project's environmental impacts. Appendix G Section VII. f) asks if the project will directly or indirectly destroy a unique paleontological resource, site, or unique geological feature.

The Society of Vertebrate Paleontology (SVP), a national organization, has established a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources (Imperial County 2014, p. 4.7-3).

B. 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 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 construction of the building. The proposed Project does not include any residential structures.

Imperial County General Plan

The Imperial County General Plan Seismic and Public Safety Element (Imperial County n.d.) contains goals, objectives, policies and programs to minimize the risks associated with natural and human-made hazards including seismic/geological hazards, flood hazards, and Imperial Irrigation District Lifelines.

Table 4.6-1 analyzes the consistency of the Project with the applicable goals and objectives relating to seismic hazards and soil conditions in the Imperial County 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.

TABLE 4.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
SEISMIC AND PUBLIC SAFETY ELEMENT		
Land Use Planning and Public Safety		
Goal 1: Include public health and safety considerations in land use planning.	Yes	The proposed Project is located in a rural area of Imperial County characterized by agricultural fields with very few nearby residences. Public health and safety would not be affected in association with development of a solar generation facility in this area based on its location away from population centers. Therefore, the proposed Project is consistent with this goal under both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 1.1 Ensure that data on geological hazards is incorporated into the land use review process, and future development process.	Yes	The proposed Project has prepared a Preliminary Geotechnical and GeoHazards Report identifying potential geologic hazards. Mitigation measures MM 4.6.2 requires preparation of a Final Geotechnical and GeoHazards Report that will identify site-specific design provisions for mitigating on-site geologic conditions including liquefaction, expansive soils and corrosive soils. All measures and design specifications identified in the Final Geotechnical and GeoHazards Report shall be incorporated into and reflected on the Project design and building plans. Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.

TABLE 4.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
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.	Yes	The proposed solar field site parcels are located in an area subject to moderate to strong ground motion from earthquakes in the region. The nearest mapped Earthquake Fault Zone is an unnamed fault that extends into the southwest corner of CUP 17-0035 and potential for surface fault rupture is low to moderate (LandMark 2018, p. 6). Liquefaction settlement and ground fissures were noted along the Westside Main Canal in the area of the Project site (LandMark 2018, p. 4). However, the Project would be designed in accordance with all applicable federal, State and local building codes. Any potential damage to proposed structures (i.e. O&M buildings, PV or CPV modules) can be mitigated through engineering and compliance with building standards (refer to mitigation measure MM 4.6.1 and MM 4.6.2). Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 1.7 Require developers to provide information related to geologic and seismic hazards when siting a proposed project.	Yes	A Preliminary Geological and Geotechnical Hazard Report was prepared for the proposed Project (LandMark 2018). The Report was used in the analysis of solar field site parcels and regional geology and soils conditions. The Report included recommendations to address potential geologic or seismic hazards that may be associated with the solar field site parcels. These recommendations have been included in this EIR as mitigation measures MM 4.6.1, MM 4.6.2 MM 4.6.7a and MM 4.6.7b. Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.

TABLE 4.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
Emergency Preparedness		
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.	Yes	The Project is subject to compliance with the 2016 CBC in regard to potential for seismic ground shaking and engineering design. The Phased CUP Scenario would also be required to incorporate design parameters and recommendations of the Final Geological and Geotechnical Report into the final Project design to address seismic and soil conditions at the solar field site parcels (MM 4.6.2). Therefore, the proposed Project is consistent with this goal under both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 2.2 Reduce risk and damage due to seismic hazards by appropriate regulation.	Yes	The proposed Project would be constructed in accordance with the 2016 CBC, the Seismic Regulations, Special Publication 117A, and the County of Imperial building requirements. Therefore, the proposed project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.
Objective 2.6 Maintain, utilize, and provide geologic and seismic information as furnished by the State Geologist as required.	Yes	The Preliminary Geological and Geotechnical Hazard Report prepared for the proposed Project utilized information provided by the State Geologist including Alquist-Priolo Earthquake Fault Zone maps and the 2010 Fault Activity Map of California. Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.

TABLE 4.6-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
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.	Yes	The Project is located in a seismically active area. The Preliminary Geological and Geotechnical Hazard report prepared for the Project includes recommendations that all structures be designed in accordance with the 2016 CBC. Recommendations of the Investigation have been included in this EIR as mitigation measures MM 4.6.1 and MM 4.6.2 to reduce risks associated with geologic and seismic hazards. Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and the Phased CUP Scenario.
Seismic/Geologic Hazards		
Policy 4 Ensure that no structure for human occupancy, other than one-story wood frame structures, shall be permitted within fifty feet of an active fault trace as designated under the Alquist-Priolo Geologic Hazards Zone Act.	Yes	The O&M Buildings are the proposed Project's only habitable structures. The proposed locations for the O&M building(s) have not been identified however the nearest mapped Earthquake Fault Zone is an unnamed fault that extends into the southwest corner of CUP17-0035 (LandMark 2018, p. 5). O&M buildings should avoid this area. Further, the proposed Project would be constructed in accordance with the 2016 CBC, the Seismic Regulations, Special Publication 117A, and the County of Imperial building requirements. Therefore, the proposed Project is consistent with this policy under both the Full Build-Out Scenario and the Phased CUP Scenario.

4.6.2 ENVIRONMENTAL SETTING

A. PROJECT SITE

Regional Geology

The solar field site parcels are located in the Imperial Valley portion of the Salton Trough physiographic province. The Salton Trough is a topographic and geologic structural depression resulting from large scale regional faulting. The trough is bounded on the northeast by the San Andreas Fault and Chocolate Mountains and the southwest by the Peninsular Range and faults of the San Jacinto Fault Zone. The Salton

Trough represents the northward extension of the Gulf of California, containing both marine and non-marine sediments 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 (LandMark 2018, p. 2).

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 freshwater 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 (LandMark 2018, pp. 2-3).

Project Site Geological Conditions

Groundwater

The groundwater in the Project vicinity is brackish and typically encountered at a depth of 5 to 10 feet below ground surface. There is uncertainty in the accuracy of short-term water level measurements, particularly in fine-grained soil. Groundwater levels may fluctuate with water elevation in the Westside Main Canal, precipitation, irrigation of adjacent properties, drainage, and grading. The groundwater level noted should not be interpreted to represent an accurate or permanent condition (LandMark 2018, p. 3).

Geologic Hazards

Landslides

According to the Preliminary Geotechnical and Geohazards Report, no ancient landslides are shown on geologic maps of the region and no indications of landslides were observed during the site investigation. The hazard of landslide is unlikely due to the relatively planar topography of the Project site (LandMark 2018, p. 3).

Volcanic Hazards

The Project site is not located near a known volcanically active area. The risk of volcanic hazards is considered very low (LandMark 2018, p. 3).

Tsunamis and Seiches

The Project site is not located near any large bodies of water. As a result, the threat of tsunamis, seiches, or other seismically-induced flooding is considered unlikely (LandMark 2018, p. 3).

Flooding

The Project site is located in FEMA Flood Zone X, an area determined to be outside the 0.2% annual chance of floodplain (FIRM Panels 06025C2050C) (LandMark 2018, p. 3).

Expansive Soils

Much of the near surface soils within the Project site consist of silty clays and clay having a moderate to high expansion potential. (LandMark 2018, p. 4).

Corrosive Soils

The lacustrine site soils within the ancient lake bed in which the Imperial Valley is formed are moderately to highly corrosive to steel and concrete (LandMark 2018, p. 4).

Liquefaction/Seismic Settlements

Liquefaction settlement and ground fissures were noted along the Westside Main Canal in the area of the Project site after the April 4, 2010 magnitude 7.2Mw El Mayor-Cucapah Earthquake. Several liquefaction related failures to the embankment of the Westside Main Canal west of the Project site have been noted (LandMark 2018, p. 4).

Seismic Hazards

Ground Shaking

The Project site is located in the seismically active Imperial Valley of Southern California with numerous mapped faults of the San Andreas Fault System traversing the region. The San Andreas Fault System is comprised of the San Andreas, San Jacinto, and Elsinor Fault Zones in southern California. The Imperial Fault represents a transition from the more continuous San Andreas fault to a more nearly echelon pattern characteristic of the faults under the Gulf of California (LandMark 2018, p. 5).

As a part of the Preliminary Geotechnical and GeoHazards Report, a search was conducted of known active faults or seismic zones within a 44-mile (70 kilometer) radius of the Project site (LandMark 2018). **Table 4.6-2** summarizes the faults. **Figure 4.6-1**, Regional Fault Map, shows the location of the Project site in relation to regional faults. **Figure 4.6-2**, Map of Local Faults, shows the solar field site parcels in relation to local faults. The primary seismic hazard at the Project site is the potential for strong groundshaking during earthquakes along the Superstition Hills, Imperial, Cerro Prieto and Laguna Salada faults.

TABLE 4.6-2
SUMMARY OF CHARACTERISTICS OF CLOSEST KNOWN ACTIVE FAULTS TO THE PROJECT SITE

Fault Name	Approximate Distance (miles)	Approximate Distance (km)	Maximum Moment Magnitude (Mw)	Fault Length (km)	Slip Rate (mm/yr)
Unnamed 2*	0.3	0.4			
Unnamed 1*	4.6	7.4			
Yuha*	5.7	9.1			
Laguna Salada	7.9	12.7	7	67 ± 7	3.5 ± 1.5
Borrego (Mexico) *	8.7	13.9			
Shell Beds	10.2	16.3			
Superstition Hills	10.6	17.0	6.6	23 ± 2	4 ± 2
Yuha Well*	11.1	17.7			
Vista de Anza*	12.6	20.1			
Superstition Mountain	14.1	22.5	6.6	24 ± 2	5 ± 3
Imperial	14.5	23.2	7	62 ± 6	20 ± 5
Brawley	15.5	24.8			
Pescadores (Mexico)*	16.3	26.0			
Cerro Prieto*	17.8	28.4			
Rico*	17.8	28.6			
Panted Gorge Wash*	17.9	28.7			
Ocotillo*	18.1	29.0			

TABLE 4.6-2
SUMMARY OF CHARACTERISTICS OF CLOSEST KNOWN ACTIVE FAULTS TO THE PROJECT SITE

Fault Name	Approximate Distance (miles)	Approximate Distance (km)	Maximum Moment Magnitude (Mw)	Fault Length (km)	Slip Rate (mm/yr)
Cucapha (Mexico) *	18.6	29.7			
Elsinore – Coyote Mountain	2.0	35.2	6.8	39 ± 4	4 ± 2
Elmore Ranch	26.2	41.9	6.6	29 ± 3	1 ± 0.5
San Jacinto - Borrego	29.6	47.4	6.6	29 ± 3	4 ± 2
Algodones*	43.9	70.2			

*Source: LandMark 2018. *Faults not included in CGS database.*

Surface Rupture

The southwest corner of the Project site lies within a State of California, Alquist-Priolo Earthquake Fault Zone (**Figure 4.6-2**). This is an unnamed fault that was mapped after the 7.2 Mw El Mayor-Cucapah Earthquake (LandMark 2018, p. 6).

Other Hazards

Hydrocollapse

The Project site is are dominantly underlain by clays that are not expected to collapse with the addition of water. The risk of hydrocollapse in these soil types is considered very low (LandMark 2018 p. 7).

Subsidence

Subsidence is the gradual, local settling or sinking of the Earth's surface with little or no horizontal motion. Subsidence is usually the result of gas, oil, or water extraction, hydro-compaction, or peat oxidation, and not the result of a landslide or slope failure. Ground surface effects related to subsidence are generally restricted to long surface structures such as canals, drains, and sewers, which are sensitive to slight changes in elevation. According to the Imperial County Seismic and Public Safety Element, subsidence from earthquakes and other activities can disrupt drainage systems and cause localized flooding. Regional subsidence has not been documented in the area west of the New River. Thus, risk of regional subsidence at any of the solar field site parcels is considered low (LandMark 2018, p. 7).

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Soil Map Units

Table 4.6-3 summarizes the soils within the solar field site parcels and associated characteristics. **Figure 4.6-3** depicts the five soil map units within the boundaries of the solar field site parcels. A brief description of the soils is provided below.

TABLE 4.6-3
SUMMARY OF PROJECT SITE SOIL MAP UNITS

Soil Name/ Map Symbol	Texture[1]	Depth of Surface Layer[1]	Wind Erodability Group[2]	Erosion (K) Factor[3]	Erosion Hazard Paths and Trails[4]	Permeability Inches Per Hour[3]
110 - Holtville	Silty Clay	0-17	4	0.32	Moderate: Too clayey	0.06 - 0.20
114 - Imperial	Silty Clay Loam	0-12	4	0.43	Moderate: Too clayey	0.06 - 0.20
115 – Imperial Glenbar	Silty Clay Loam	0-13	4L	0.37	Slight	0.2-0.6
122 - Meloland	Loamy Very Fine Sandy Loam	0-12	4L	0.43	Moderate: Wetness	0.6-2.0
135 - Rositas Fine Sand, wet, 0 to 2 percent slopes	Fine Sand	0-9	1	0.20	Severe: Too Sandy	6.0-20

Source: USDA 1981, LandMark 2018, Plate A-3 *Notes: N/A = not applicable or not available.*

[1] Taken from Table 11, Engineering Index Properties.

[2] Wind erodibility groups range from 1 to 8, with 1 being highly erodible and 8 having low erodibility. Taken from Table 12, Physical and Chemical Properties of Soils.

[3] This is an index of erodibility for standard condition and includes susceptibility of soil to erosion and rate of runoff. Low K values (below 0.15) indicate low erosion potential. High K values (above 0.4) are highly erodible. Taken from Table 12, Physical and Chemical Properties of Soils

[4] Qualitative descriptors of erosion hazard: Slight = little or no erosion is anticipated, Moderate = some erosion anticipated, Severe = significant erosion potential exists. Taken from Table 9, Recreational Development (Paths and Trails).

Soil Series Descriptions

Glenbar Soils – The Glenbar series consists of very deep, well drained soils that formed in stratified stream alluvium. Glenbar soils are on floodplains and alluvial fans and have slopes of 0 to 3 percent. These soils are well-drained; have medium to slow runoff; and have moderately slow permeability (USDA 1981, pp. 52-23).

Holtville Soils – The Holtville Series consists of very deep, well drained soils formed in mixed and stratified alluvium. Holtville soils are on floodplains and basins and have slopes of 0 to 3 percent. Holtville soils are well drained; have low runoff; and have slow permeability (USDA 1981, p.53).

Imperial Soils – The Imperial soils are nearly level to gently sloping and are on floodplains and in old lake beds at elevations of 235 feet below sea level to 300 feet above sea level. Imperial soils are well and moderately well drained; slow or very slow runoff except on low scarps; and have very slow permeability (USDA 1981, p. 54).

Meloland soils – The Meloland series is a member of the coarse-loamy over clayey, mixed (calcareous), hyperthermic family of Typic Torrifluvents. Meloland soils are naturally well drained, but commonly have perched water tables under irrigation. Surface runoff is low or medium; permeability is slow (USDA 1981, pp. 55-56).

Rositas soils – The Rositas unit consists of very deep calcareous soils formed in alluvial and eolian deposits. Slopes are 0 to 30 percent. Elevation is 300 above sea level to 230 feet below sea level (USDA 1981, p. 56).

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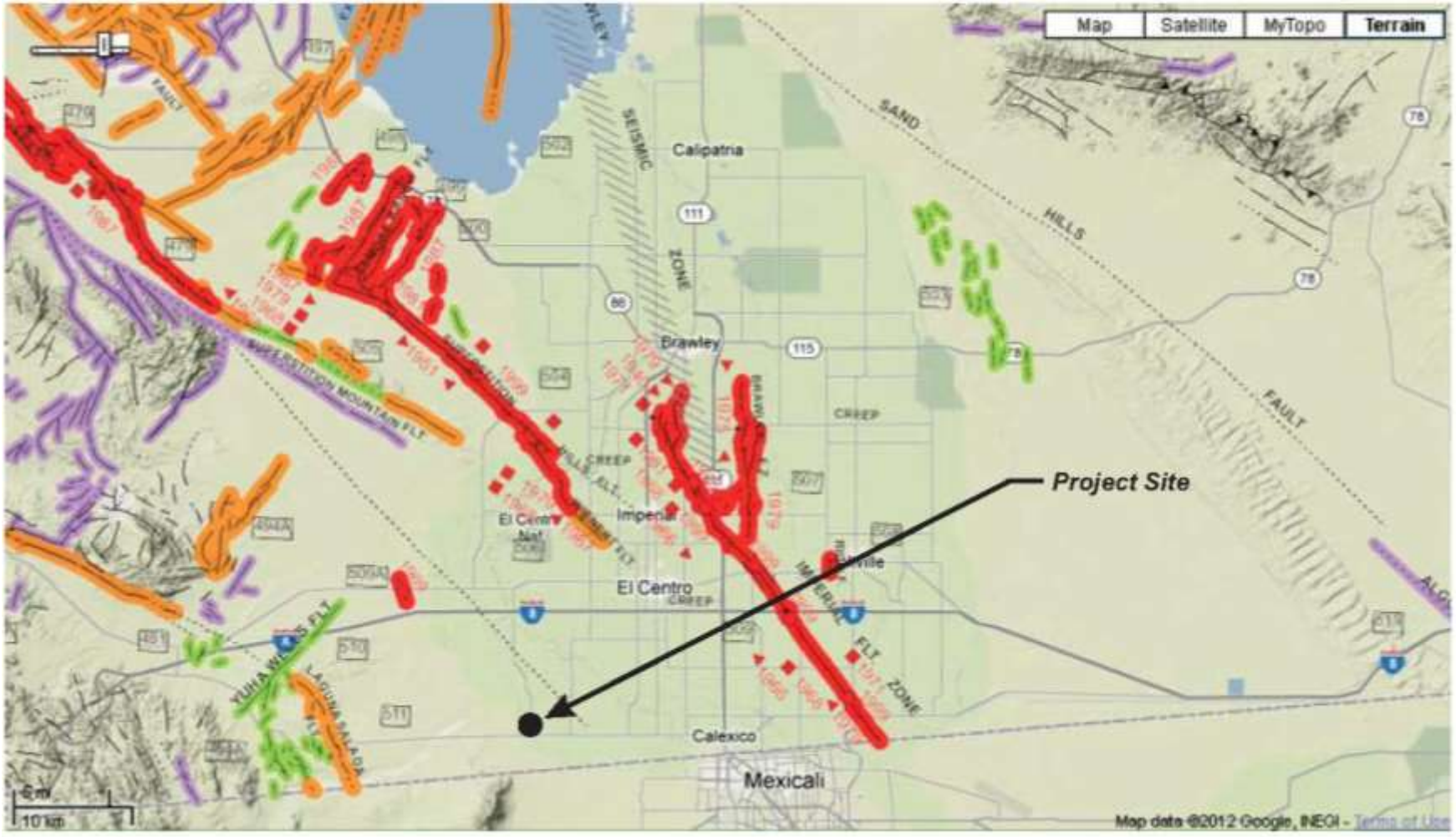


Source: California Geological Survey 2010 Fault Activity Map of California.
http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#

FIGURE 4.6-1
LOCAL FAULT MAP

EXPLANATION

Fault traces on land are indicated by solid lines where well located, by dashed lines where approximately located or inferred, and by dotted lines where concealed by younger rocks or by lakes or bays. Fault traces are queried where continuation or existence is uncertain. Concealed faults in the Great Valley are based on maps of selected subsurface horizons, so locations shown are approximate and may indicate structural trend only. All offshore faults based on seismic reflection profile records are shown as solid lines where well defined, dashed where inferred, queried where uncertain.

FAULT CLASSIFICATION COLOR CODE
(Indicating Recency of Movement)

Fault along which historic (last 200 years) displacement has occurred and is associated with one or more of the following:

(a) a recorded earthquake with surface rupture. (Also included are some well-defined surface breaks caused by ground shaking during earthquakes, e.g. extensive ground breakage, not on the White Wolf fault, caused by the Arvin-Tehachapi earthquake of 1952). The date of the associated earthquake is indicated. Where repeated surface ruptures on the same fault have occurred, only the date of the latest movement may be indicated, especially if earlier reports are not well documented as to location of ground breaks.

(b) fault creep slippage - slow ground displacement usually without accompanying earthquakes.

(c) displaced survey lines.

A triangle to the right or left of the date indicates termination point of observed surface displacement. Solid red triangle indicates known location of rupture termination point. Open black triangle indicates uncertain or estimated location of rupture termination point.

Date bracketed by triangles indicates local fault break.

No triangle by date indicates an intermediate point along fault break.

Fault that exhibits fault creep slippage. Hachures indicate linear extent of fault creep. Annotation (creep with leader) indicates representative locations where fault creep has been observed and recorded.

Square on fault indicates where fault creep slippage has occured that has been triggered by an earthquake on some other fault. Date of causative earthquake indicated. Squares to right and left of date indicate terminal points between which triggered creep slippage has occurred (creep either continuous or intermittent between these end points).

Holocene fault displacement (during past 11,700 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age. Unnumbered Quaternary faults were based on Fault Map of California, 1975. See Bulletin 201, Appendix D for source data.

Pre-Quaternary fault (older that 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissnce nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

Source: California Geological Survey 2010 Fault Activity Map of California. http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#

FIGURE 4.6-1A
LOCAL FAULT MAP LEGEND

ADDITIONAL FAULT SYMBOLS

Bar and ball on downthrown side (relative or apparent).

Arrows along fault indicate relative or apparent direction of lateral movement.

Arrow on fault indicates direction of dip.

Low angle fault (barbs on upper plate). Fault surface generally dips less than 45° but locally may have been subsequently steepened. On offshore faults, barbs simply indicate a reverse fault regardless of steepness of dip.

OTHER SYMBOLS

Numbers refer to annotations listed in the appendices of the accompanying report. Annotations include fault name, age of fault displacement, and pertinent references including Earthquake Fault Zone maps where a fault has been zoned by the Alquist-Priolo Earthquake Fault Zoning Act. This Act requires the State Geologist to delineate zones to encompass faults with Holocene displacement.

Structural discontinuity (offshore) separating differing Neogene structural domains. May indicate discontinuities between basement rocks.

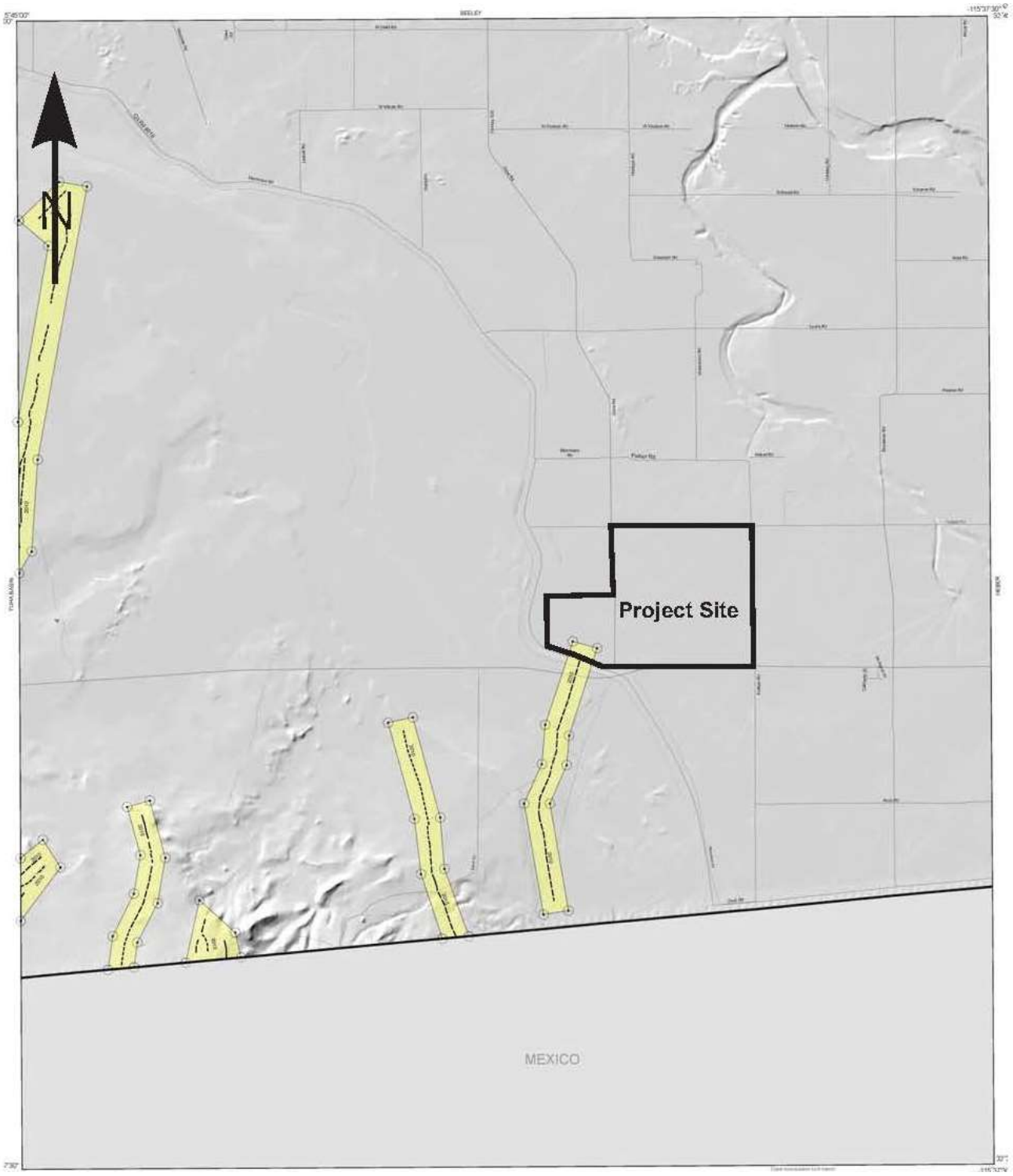
Brawley Seismic Zone, a linear zone of seismicity locally up to 10 km wide associated with the releasing step between the Imperial and San Andreas faults.

Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
		Pleistocene	11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
	Early Quaternary		700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			1,600,000*			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.
			4.5 billion (Age of Earth)				

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

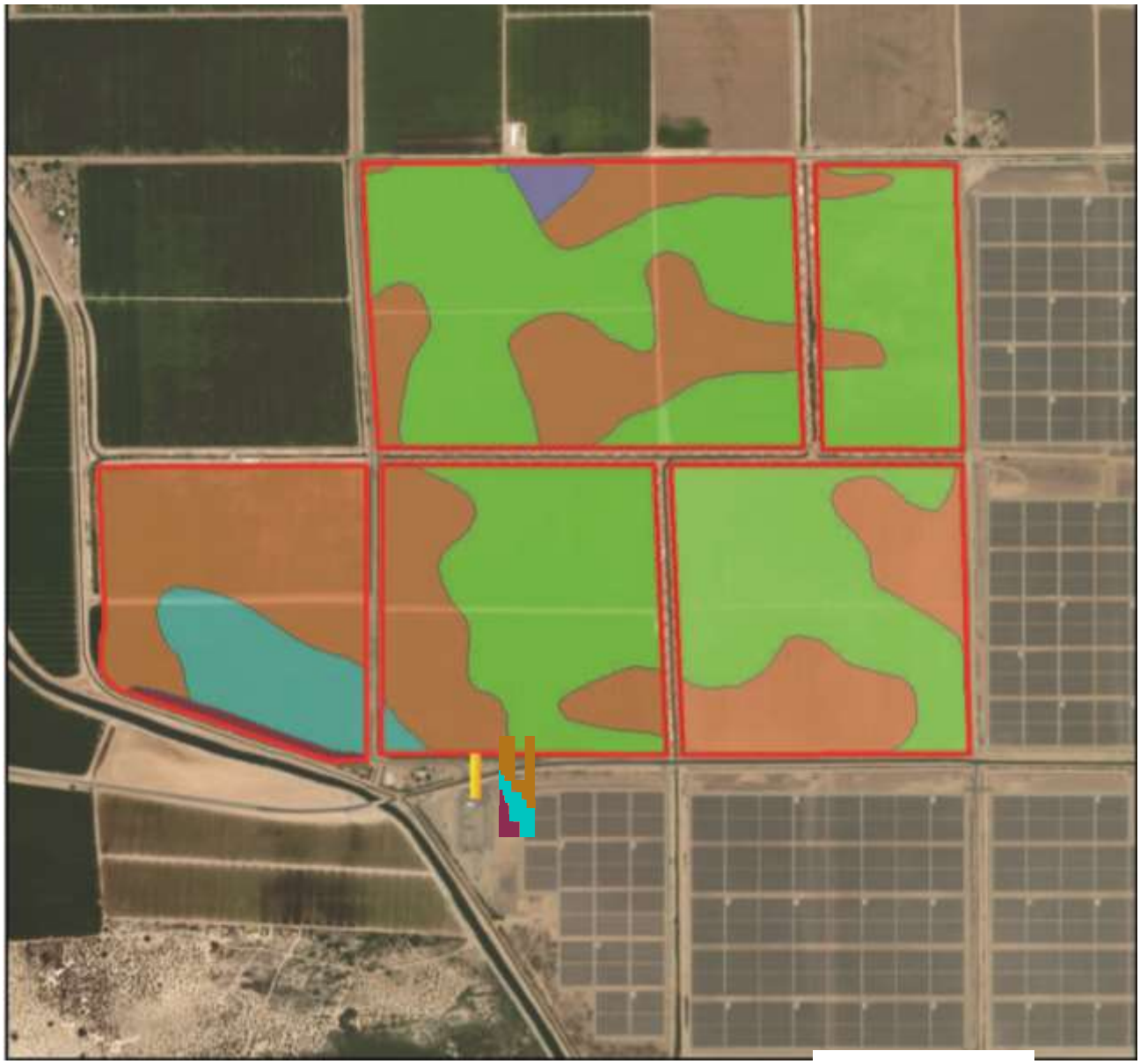
Source: California Geological Survey 2010 Fault Activity Map of California. http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html#

FIGURE 4.6-1A
LOCAL FAULT MAP LEGEND



Source: LandMark 2018.

FIGURE 4.6-2
ALQUIST-PRIOLO EARTHQUAKE FAULT ZONE MAP



Net Farmable Area = 762.8 ac
Utility Road
Gen-Ties

Soil Classification

Holtville silty clay, wet - 5.8 ac (0.8%)
Imperial silty clay, wet - 409.9 ac (53.7%)
Imperial-Glenbar silty clay loams, wet, 0-2 % slopes - 298.6 ac (39.1%)
Meloland very fine sandy loam, wet - 42.4 ac (5.6%)
Rositas fine sand, wet, 0-2 % slopes - 6.0 ac (0.8%)

Source: Recon 2018c.

FIGURE 4.6-3
PROJECT SITE SOILS MAP

Paleontology

Paleontological resources (fossil or fossils) are the remains of prehistoric life, excluding any human remains that are characterized by geologic age (i.e. typically 10,000 years older or older). Paleontological resources also include the areas where fossils were collected and the sedimentary rock formations in which they were found as well as the impressions and casts created by organisms. Examples of fossil remains include marine shells: bones and teeth of fish, reptiles and mammals; leaf collections and fossilized wood (Imperial County 2014, p. 4.7-4).

The Project Site is located in the Imperial Valley portion of the Salton Trough physiographic province of Southern California. The Project Site and surrounding Imperial Valley 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. The oldest sedimentary rocks in the vicinity of the Project Site consist of fossil-rich marine mudstones and siltstones of the Imperial Group that formed on the submerged marine portions of the ancestral Colorado River delta (Imperial County 2011, p. 3.13-3).

B. Drew Switchyard and Gen-Tie Lines

The description of Geologic Conditions, Geologic Hazards, Seismic Hazards, Other Hazards and Paleontology described for the Project Site also apply to the Drew Switchyard and the two Gen-Tie Lines.

Soil Map Units

As shown in **Figure 4.6-3**, the two Gen-Tie lines will extend south across SR 98 and Drew Road and into the existing Drew Switchyard. The Gen-Tie lines will align through Imperial-Glenbar soils. The Gen-Tie transmission structures will require drilling to a maximum depth of 10 feet for pole foundations (Dudek 2018a, p. 35).

The southwest corner of the Drew Switchyard is sited on Rositas Fine Sand, wet, 0 to 2 percent slopes; the mid-portion on Meloland Soil and the northeast corner on Imperial Glenbar Soil.

4.6.3 Impacts and Mitigation Measures

A. Standards of Significance

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to geology and soils if it would result in any of the following:

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

   ii) Strong Seismic ground shaking.

   iii) Seismic-related ground failure, including liquefaction.

   iv) Landslides.

b) Result in substantial soil erosion or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

B. Issues Scoped Out as Part of the Initial Study

Criterion a iv) was scoped out because the Project site exhibits a generally flat topography and no landslides exist within or near the site. Based on the topography across the Project site, the potential for landsliding is considered negligible (LandMark 2018, p. 3). Thus, no impact is identified for this issue area and it will not be discussed in the EIR.

C. Methodology

Potential impacts to existing conditions were evaluated based on potential to be affected by construction, operation and maintenance activities, and decommissioning of the Project. Construction, operation, and maintenance activities were identified based on information provided by the Phased CUP Scenario (Drew Solar 2018). Impacts to geology and soil resources were formulated based on the findings of the *Preliminary Geotechnical and GeoHazards Report: Drew Solar Site NWC Pulliam Road and Hwy 98, Calexico, California*, prepared by LandMark Consultants, Inc. (LandMark 2018). The Preliminary Geotechnical and GeoHazards Report is provided as **Appendix E** on the attached CD of Technical Appendices to this EIR.

D. Project Impacts and Mitigation Measures

Alquist-Priolo Earthquake Fault Rupture

Impact 4.6.1 An unnamed fault mapped as an Alquist-Priolo Earthquake Fault Zone extends into CUP #17-0035. Surface rupture is considered low to moderate. This is considered a **potentially significant impact**.

CUP#17-0035 and CUP#18-0001

The 2017 Alquist-Priolo Earthquake Fault Zone maps depicts an unnamed fault extending in the southwestern portion of the Project site, specifically at CUP#17-0035 and slightly into CUP#18-0001 (**see Figure 4.6-2**). Geologic mapping of the Imperial Valley by the United States Geological Survey (USGS) following magnitude 7.2 Mw El Mayor-Cucapah Earthquake also indicates movement along several known and unknown faults west of the Project site. Surface rupture on these faults is possible from future seismic events in the area (LandMark 2018, p. 5).

Construction

According to the Preliminary Geotechnical and Geohazards Report prepared for the proposed Project, the potential for surface rupture at CUP#17-0035 and CUP#18-0001 is considered to be low to moderate (LandMark 2018, p. 6). During construction, Project components could be damaged if a surface rupture were to occur. This is considered a **potentially significant impact** during Project construction for both the Full Build-out Scenario and the Phased Build-out Scenario.

Operations

CUP#17-0035 is proposed to be developed with solar panels and supporting infrastructure as well energy storage as a component of solar on CUP#18-0001. O&M structures may also be developed on CUP#17-0035. The O&M structures would be occupied by staff during operations which could put staff safety at risk if a rupture were to occur. The energy storage components would be housed in a warehouse type building or alternatively in smaller modular structures such as cargo shipping containers (refer to Figure 2.0-12 and Figure 2.0-13 in Chapter 2.0, Project Description). This is considered a **potentially significant impact** during Project operation for both the Full Build-out Scenario and the Phased Build-out Scenario**.**

Decommissioning/Reclamation

During decommissioning, all solar panels, supporting infrastructure and energy storage components would be removed from CUP#17-0035 and CUP#18-0001. Following decommissioning/reclamation, no structures for human occupancy would remain. Therefore, **no impact** would occur with regard to surface rupture following decommissioning and reclamation.

Mitigation Measures

MM 4.6.1 A Fault Hazard Study including fault trenching shall be prepared for CUP#17-0035 and CUP#18-0001 to address any issues associated with the presence of an Alquist-Priolo Earthquake Fault Zone.

Timing/Implementation: *As a Condition of Approval/ Prior to approval of final building plans*

Enforcement/Monitoring: *Imperial County Department of Planning and Development Services, Division of Building & Safety*

Significance After Mitigation

Implementation of mitigation measure MM 4.6.1 would require that a Fault Hazard Study be prepared for CUP#17-0035 and CUP#18-0001 to assess the potential for fault rupture and assist with determining the location for an O&M building and suitability for energy storage components. Specifications for proper building practices should also be identified and followed to ensure any localized geological event would not damage or cause failure of the O&M building or structures housing energy storage components. Following implementation of mitigation measure MM 4.6.1 impacts associated with damage from a fault rupture on structures for human occupancy would be reduced to **less than significant** for both the Full Build-out Scenario and the Phased Build-out Scenario.

Strong Seismic Ground Shaking

Impact 4.6.2 The Project site is located in a seismically active region and would be subject to strong seismic ground shaking in the event of an earthquake. This is considered a **potentially significant impact**.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

As discussed above, the Project site is located in the seismically active Imperial Valley in Southern California and could experience moderate to strong ground motion during earthquakes in the region. Imperial County is classified as Seismic Zone 4 by the Uniform Building Code (UBC 1997) (Sections 1626 through 1635). Developments within in Seismic Zone 4 (highest risk on a scale of 0 to 4) are required to incorporate the most stringent earthquake resistant measures. The amount of ground shaking in an area during an earthquake depends on several factors: 1) proximity of the area to the fault; 2) the depth of

focus; 3) the location of the epicenter; and 4) 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 alluvial soils.

The solar field site parcels are primarily underlain by lacustrine deposits which consist of interbedded lenticular and tabular silt, sand and clay. Thus, the Project site is prone to strong groundshaking during earthquakes along the Superstition Hills, Imperial, Cerro Prieto and Laguna Salada faults (**Figure 4.6-1**) (Land Mark 2017, p. 5). The proposed O&M building(s), PV panels, substations, etc. could be damaged by strong seismic shaking. Therefore, impacts associated with strong seismic shaking during construction are considered **potentially significant** for both the Full Build-out and Phased Build-out scenarios.

The Project must comply with the engineering and design standards contained in the 2016 CBC. Project compliance with 2016 CBC requirements would be subject to review and approval by the Imperial County Planning and Development Services Department and Public Works Department prior to issuing building permits. The proposed Project would be designed in accordance with the engineering and design standards contained in the 2016 CBC, the Seismic Regulations and the County of Imperial building requirements.

Operation

Potential issues related to seismic ground shaking would be addressed during Project design and construction in compliance with the mandatory requirements of the 2016 CBC. Therefore, a **less than significant** impact related to seismic ground shaking would occur during Project operation for both the Full Build-out and Phased Build-out Scenarios.

Decommissioning/Reclamation

Decommissioning would result in the dismantling and removal of infrastructure constructed as part of the Project. No structures would remain to be potentially disturbed during an earthquake event. Thus, following reclamation, **no impacts** resulting from exposure to ground shaking would occur for both the Full Build-out and Phased Build-out Scenarios.

Mitigation Measures

MM 4.6.2 Prior to approval of final building plans, a registered civil engineer or certified engineering geologist, having at least five years of experience in the field of seismic hazard evaluation and mitigation, shall prepare a Final Geotechnical and GeoHazards Report containing site-specific evaluations of the ground shaking hazards affecting the Project, identify the portions of the Project site containing ground shaking hazards, and identify appropriate Project design measures pursuant to the established and proven methodologies (e.g. Special Publication 117A). The Report shall also include site-specific evaluations of potential for liquefaction, expansive soils and corrosive soils for all solar field site parcels, energy storage components and Gen-Tie foundations. The Report shall identify appropriate Project design measures pursuant to the established and proven methodologies set forth in the 2016 CBC. All recommended Project design measures as set forth in the Final Geotechnical and GeoHazards Report shall be incorporated into and reflected on the final design and building plans for each CUP. All recommended Project design measures as set forth in the Final Geotechnical and GeoHazards Report shall be incorporated into and reflected on the final design and building plans. The Final Geotechnical and GeoHazards Report and Project plans shall be submitted for review and approval by the Imperial County Planning and Development Services Department, Division of Building & Safety prior to approval of the final building plans.

Timing/Implementation: *Prior to approval of final building plans/As part of Project design.*

Enforcement/Monitoring: *Imperial County Department of Planning and Development Services, Division of Building & Safety.*

Significance After Mitigation

Pursuant to the Seismic Hazards Mapping Act, Seismic Regulations and Special Publication 117A, the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy, but not to a level of no ground failure at all. Implementation of mitigation measure MM 4.6.2 reduces the risk of ground failure to this level for both habitable O&M building(s) as well as the other non-habitable project facilities (e.g., solar panels). Implementation of mitigation measure MM 4.6.2 avoids exposing people or structures to potential substantial adverse effects due to ground failure resulting from strong seismic ground shaking through adherence to the appropriate codes and standards of care and therefore mitigates impacts to a **less than significant** level for both the Full Build-out Scenario and the Phased Build-out Scenario.

Liquefaction

Impact 4.6.3 Soils throughout the solar field site parcels have characteristics prone to liquefaction. Evidence of liquefaction was also noted in the area of the Project site. Therefore, a **potentially significant** impact could occur with regard to liquefaction.

FULL BUILDOUT SCENARIO/PHASED BUILD-OUT SCENARIO

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

Four conditions are generally required for liquefaction to occur:

1) The soil must be saturated (relatively shallow groundwater) Note: groundwater in the area of the Project site is typically encountered at a depth of 5 to 10 feet (LandMark 2018, p. 3);
2) The soil must be loosely packed (low to medium relative density);
3) The soil must be relatively cohesionless (not clayey); and
4) Groundshaking of sufficient intensity must occur to function as a trigger mechanism.

All of these conditions may exist to some degree at this site (LandMark 2018, p. 4). Furthermore, the following the April 4, 2010 magnitude 7.2Mw El Mayor-Cucapah Earthquake, liquefaction settlement and ground fissures were noted along the Westside Main Canal in the area of the Project site. In addition, several liquefaction related failures to the embankment of the Westside Main Canal west of the Project site have been noted (LandMark 2018, p. 4). Distance from the canal to the Project site is as close as approximately 150 feet to the south and approximately 1,100 feet to the west. Therefore, potential for liquefaction at the Project site is considered **potentially significant**.

Construction

According to the Preliminary Geotechnical and GeoHazards Report prepared for the proposed Project, liquefaction is a potential design consideration because of possible saturated sandy substrata underlying the Project site (LandMark 2018, p. 4). Therefore, a **potentially significant** impact related to liquefaction settlement and ground fissures could occur during the Project's construction of both the Full Build-out and Phased Build-out Scenarios.

Operation

As noted above, the Project proposes to install solar facilities throughout the Project site. These areas are vulnerable to liquefaction settlement and ground fissures during a strong seismic event. Any such facilities would likely be damaged during a strong seismic event without proper soil and foundation engineering. Potential issues related to liquefaction settlement and ground fissures would be addressed during Project design and construction, in compliance with the recommendations of the Final Geotechnical and GeoHazards Report. With proper engineering and construction, potential for impacts resulting from liquefaction settlement and ground fissures would be reduced to **less than significant** levels during Project operation for both the Full Build-out and Phased Build-out Scenarios.

Decommissioning/Reclamation

Decommissioning would result in the dismantling and removal of solar facilities and infrastructure constructed as part of the Project. No structures would remain to be potentially disturbed by exposure to liquefiable soils. Thus, following reclamation, **no impacts** resulting from exposure to liquefiable soils would occur for both the Full Build-out and Phased Build-out Scenarios.

Mitigation Measures

Implement mitigation measure MM 4.6.2.

Significance After Mitigation

Implementation of mitigation measure MM 4.6.2 would reduce exposure of Project structures to potential damage caused by soil liquefaction, ground failure, or ground fissures through adherence to design recommendations identified in the Final Geotechnical and GeoHazards Report. Thus, impacts associated with soil liquefaction would be **less than significant** after mitigation for both the Full Build-out and Phased Build-out Scenarios.

Soil Erosion

Impact 4.6.4 Construction, maintenance, and decommissioning activities would result in earth moving and potential for erosion and loss of top soil. The Project is subject to mandatory compliance with several regulatory requirements established to address erosion. Therefore, soil erosion impacts are considered **less than significant**.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Soil erosion could result during construction of the proposed Project in association with grading and earth moving activities. The solar field site parcels and individual CUPs consist of agricultural land void of structures with the primary exception of IID irrigation facilities. A majority of the land is actively being farmed. It may be necessary to remove, relocate and/or fill in portions of the existing drainage ditches or delivery canals to accommodate the final panel layout for the Project. The final engineering design for these facilities will be reviewed by IID and the County to be sure that the purpose for the facilities (if still needed) will be met. There are no large structures or other facilities that would need to be removed.

At full build-out, most of the proposed solar field site parcels would be disturbed by construction. To the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the PV module supports may be required and is dependent on final engineering design. During construction, erosion would be controlled in accordance with County standards including preparation, review and approval of a grading plan by the County Engineer; compliance with Rule 800 and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (discussed further in Section 4.11,

Hydrology and Water Quality). Phased CUP Scenario-Proposed Measures (refer to Table 2.0-6 in Chapter 2.0, Project Description) would also include stabilizing all disturbed areas with water, tarps, dust suppressants, or soil binders, and capping construction vehicle speeds at a maximum of 15 miles per hour (mph) on any unpaved surface at the Project site. Therefore, potential soil erosion impacts would be reduced to **less than significant** levels with implementation of state and local construction requirements as well as Phased CUP Scenario-Proposed Measures related to dust and erosion control for both the Full Build-out Scenario and Phased Build-out Scenario.

Operation

The generally flat topography of the solar field site parcels and the low average annual precipitation for the area would reduce the likelihood of substantial erosion and loss of topsoil. Daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to increase erosion. Therefore, potential soil erosion impacts occurring during Project operations are considered **less than significant** for both the Full Build-out Scenario and Phased Build-out Scenario.

Decommissioning/Reclamation

Decommissioning activities would require earth-moving activities that could contribute to soil erosion. Earth-moving activities occurring during decommissioning would be typical of most construction sites and temporary in nature. During decommissioning, soil erosion and would be controlled in accordance with NPDES CGP(s) and Project-specific SWPPP(s). Further, it is anticipated that regulatory compliance and Best Available Control Technologies (BACTs) at the time of decommissioning would be similar to or more stringent than those currently required. Therefore, a **less than significant impact** regarding soil erosion and sedimentation would occur during decommissioning of both the Full Build-out Scenario and Phased Build-out Scenario. Following reclamation to the Project site's original condition, no soil erosion would occur.

Mitigation Measures

None required beyond compliance with state and local construction requirements as well as Phased CUP Scenario-Proposed Measures related to dust and erosion control.

Significance After Mitigation

Compliance with state and local construction requirements as well as Phased CUP Scenario-Proposed Measures related to dust and erosion control would reduce erosion to less than significant levels for both the Full Build-out Scenario and Phased Build-out Scenario.

Expansive Soils

Impact 4.6.5 Near surface soils within the Project site consist of silty clay and clay having a moderate to high expansion potential. Therefore, expansive soils impacts are considered **less than significant**.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Soils on the Project site predominately consist of clays with imbedded silts and sandy silts. Structures (building/inverter foundations, concrete flatwork, O&M building(s), energy storage components, etc.) proposed on the solar field site parcels could be subject to some potential swelling forces and reduction in soil strength resulting from saturation of the soil. This is considered a **potentially significant impact** during construction for both the Full Build-out Scenario and the Phased Build-out Scenario.

In contrast, expansive soils are not anticipated to have any effect on Gen-Tie structures as the foundations would consist of deep drilled piers reinforced with rebar similar to those constructed as part of the neighboring Centinela Solar Project (LandMark 2014a, p. 4). Therefore, the Gen-Tie structures are not expected to be subject to direct impacts resulting from the presence of expansive soils, and **no impact** would occur during construction of the Gen-Tie for both the Full Build-out Scenario and the Phased Build-out Scenario.

Operation

Potential issues related to expansive soils would be addressed during Project design and construction in compliance with the requirements of the 2016 CBC and recommendations of the Final Geotechnical and GeoHazards Report. Therefore, a **less than significant** impact related to expansive soils is anticipated to occur during the operation of both the Full Build-out Scenario and Phased Build-out Scenario.

Decommissioning/Reclamation

Decommissioning would result in the dismantling and removal of all structures constructed as part of the Project. The solar facilities on each CUP would be removed and no longer be subject to potential swelling forces and reduction in soil strength resulting from saturation of the soil. Thus, following reclamation, **no impact** resulting from exposure to expansive soils would occur for both the Full Build-out Scenario and Phased Build-out Scenario.

Mitigation Measure

Implement mitigation measure MM 4.6.2.

Significance After Mitigation

Implementation of mitigation measure MM 4.6.2 would fulfill the recommendations of the Final Geotechnical and GeoHazards Report and 2016 CBC regarding expansive soils. Thus, impacts associated with expansive soils within the solar field site parcels, energy storage components and Gen-Tie foundation locations would be reduced to **less than significant** for both the Full Build-out Scenario and the Phased Build-out Scenario.

Soil Capability to Support On-site Wastewater Treatment System

Impact 4.6.6 The Project would generate wastewater from sanitary facilities such as sinks and toilets in the O&M building(s). The Project proposes to construct an on-site sanitary waste septic system. Project site soils are capable of supporting an on-site wastewater treatment system. Therefore, impacts with regard to supporting an on-site wastewater treatment system are considered **less than significant**.

ALL CUPs WHERE AN O&M BUILDING IS PROPOSED

Construction

The solar field site parcels and surrounding areas are agricultural with industrial solar developments. Rural residents in the area are not served by municipal wastewater. During construction, waste streams would be generated by on-site construction workers. Temporary septic systems or holding tanks and portable toilets would be used during construction of the Project to provide needed sanitary facilities. These facilities may be located on CUPs where O&M buildings are proposed as needed based upon the location of construction activities. Portable facilities would be self-contained and would not release wastewater or require soils capable of supporting septic systems. Therefore, **no impact** would occur during the construction of the Project in regard to soil capability to support septic systems for both the Full Build-out Scenario and the Phased Build-out Scenario.

Operation

The solar field site parcels and surrounding areas are agricultural and not served by municipal wastewater. During operations and maintenance activities, the Project proposes to collect wastewater from sinks and toilets located in the O&M building(s) and send the waste stream to an on-site sanitary waste septic system and leach field to be installed in compliance with standards established by Imperial County Environmental Health Services (EHS). Alternatively, the Project may be designed to direct these waste streams to an underground tank for storage until it is pumped out, on a periodic or as-needed basis, and transported for disposal at a licensed waste treatment facility.

Use of on-site wastewater treatment systems are governed by the State Water Resources Control Board's On-Site Wastewater Treatment System Policy, Water Quality Control Policy for Siting, Design, Operation and Maintenance of On-site Wastewater Treatment Systems ("OWTS Policy"). The OWTS Policy establishes a statewide, risk-based, tiered approach for the regulation and management of on-site wastewater treatment systems and sets the level of performance and protection required from on-site wastewater treatment systems. The OWTS Policy only authorizes subsurface disposal of wastewater and establishes minimum requirements for the permitting, monitoring and operation of on-site wastewater treatment systems for protecting beneficial uses of Waters of the State and preventing conditions of pollution and nuisance.

The OWTS Policy requires that an on-site wastewater treatment system be supported by soils that provide minimum separation from groundwater (5-feet for the Project); percolation tests demonstrate the effluent dispersal area shall not be faster than one minute per inch or slower than one hundred twenty minutes per inch; minimum horizontal setbacks be maintained from specified land uses (5-feet from property lines and structures, 100-feet from water and monitoring wells, and other specified setbacks for other water sources and public water systems); and that the natural ground slope shall not exceed 25%, among other things. If the wastewater from the O&M buildings is treated by a pressure distribution system, it will also be required to meet the standards established by the Imperial County Division of Environmental Health in Pressure Distribution (2012): Standards and Guidance for Performance, Application, Design and Operation and Maintenance ("Pressure Distribution Guidelines").

According to the Preliminary Geotechnical and GeoHazards Report prepared for the proposed Project, near-surface soils generally consist of silty clays and clays having a low infiltration rate. The near-surface soils are considered good in supporting an on-site septic systems and leach fields for wastewater disposal (LandMark 2018, p. 3). Groundwater in the Project vicinity is typically encountered at a depth of 5 to 10 feet below ground surface (LandMark 2018, p. 3).

Site-specific studies will be required during the final design phase and prior to the issuance of building permits for each O&M building proposing the use of an on-site wastewater treatment system to determine that County Environmental Health Standards are met with regard to soil percolation rates and separation of leach fields from groundwater (LandMark 2018, p. 3).

Site-specific studies will be required during the final design phase and prior to the issuance of building permits for each O&M building proposing the use of an on-site wastewater treatment system to determine whether compliance with OWTS Policy can be achieved with regard to soil percolation rates, vertical separation from groundwater, and other siting requirements (LandMark 2014a, p. 3). In addition, any on-site wastewater treatment system must be designed and installed in compliance with all applicable provisions of the Imperial County Code, including the Plumbing Code and ordinances governing Regulation of Sewage Disposal Systems and Sanitation Permits, as set forth in Title 9, Division 10, Chapters 4, 12 and 13, and the Imperial County Uniform Policy and Method for Soils Evaluation, Testing and Reporting (Relative to Applications for Private Sewage System Permits). Following compliance with the findings of

the site-specific study and local and state requirements, impacts with regard to supporting an on-site wastewater treatment system during Project operation are considered **less than significant** on all CUPs where an O&M Building is proposed for both the Full Build-out Scenario and the Phased Build-out Scenario.

Decommissioning/Reclamation

Temporary septic systems or holding tanks and portable toilets may be used at O&M building(s) during decommissioning to provide needed sanitary facilities for on-site workers. However, temporary and portable restroom facilities would be self-contained and would not release wastewater or require soils capable of supporting on-site wastewater treatment systems. Therefore, **no impact** would occur during decommissioning of the O&M buildings in regard to soil capability to support septic systems. Likewise, no impacts would occur following reclamation for both the Full Build-out Scenario and the Phased Build-out Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Soil Corrosivity

Impact 4.6.7 Soils within the Project Area are known to be corrosive. Steel and concrete structures could be damaged through contact with corrosive soils. This is considered a **potentially significant impact**.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

All soils within the ancient lake bed in which the Imperial Valley is formed are moderately to highly corrosive to steel and concrete. These soils present a potential corrosion threat to substations/switchgear where bare steel or concrete is in contact with soil. Corrosive soils are present throughout the Project Area. Damage to proposed concrete features of the Project as a result of soil chemistry during construction is considered a **potentially significant** impact under both the Full Build-out Scenario and Phased Build-out Scenario.

Operation

Potential issues related to corrosive soils would be addressed during Project design and construction through use of materials and coatings to remediate and protect concrete and steel coming in contact with site soils. Therefore, a **less than significant** impact related to corrosive soils is anticipated to occur during operation of the Project under both the Full Build-out Scenario and Phased Build-out Scenario.

Decommissioning/Reclamation

As part of decommissioning, all solar structures and infrastructure would be removed and the solar field site parcels would be reclaimed to pre-Project soil conditions. The Gen-Tie structure locations would be reclaimed to their pre-Project condition. Therefore, **no impacts** associated with corrosive soils are anticipated to occur during decommissioning or following reclamation under both the Full Build-out Scenario and Phased Build-out Scenario.

Mitigation Measures

MM 4.6.7a Concrete mixed with higher cement contents (6 sacks Type V Portland Cement) and low water-cement ratios (0.45 w/c ratio) shall be used for all concrete structures proposed as part of the Project subject to approval by the County Engineer and Planning Director.

Timing/Implementation: *During Project construction.*
Enforcement/Monitoring: *Imperial County Engineer/Imperial County Department of Planning and Development Service*s, *Division of Building & Safety.*

MM 4.6.7b Zinc coatings (galvanizing) or increased structural sections shall be used to protect all steel posts and to compensate for metal loss due to corrosion subject to approval by the County Engineer and Planning Director.

Timing/Implementation: *During Project construction.*
Enforcement/Monitoring: *Imperial County Engineer/Imperial County Department of Planning and Development Service*s, *Division of Building & Safety.*

Significance After Mitigation

Implementation of mitigation measure MM 4.6.7a and MM 4.6.7b would ensure that concrete and steel structures coming in contact with corrosive soils are properly protected using Type V Portland Cement and zinc coatings. Upon implementation of these measures, impacts resulting from soil corrosivity throughout would be reduced to **less than significant** under both the Full Build-out Scenario and Phased Build-out Scenario.

Impacts to Paleontological Resources

Impact 4.6.8 The Project Site and surrounding areas are underlain by geologic units comprised of quaternary lake deposits of the ancient Lake Cahuilla. As such, the potential exists for fossils to be impacted during construction. Thus, impacts to paleontological resources are considered **potentially significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

A Paleontological Assessment was not prepared for the Drew Solar Project. However, such an assessment was undertaken for the neighboring CSE Project to the east. Both the proposed Project and the CSE Project are located in the Imperial Valley portion of the Salton Trough physiographic province of Southern California. Likewise, both Projects and the surrounding Imperial Valley are 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. The oldest sedimentary rocks in the vicinity of the CSE Project included fossil-rich marine mudstones and siltstones of the Imperial Group that formed on the submerged marine portions of the ancestral Colorado River delta (Imperial County 2011, p. 3.13-3).

FULL BUILD-OUT/PHASED CUP SCENARIO

Construction

While the potential for fossil resources to be discovered during construction is unknown, the likelihood of discovering any such resources during grading or other shallow excavations is considered low given the

historic and on-going farming activities on the Project Site. However, the potential exists for the inadvertent discovery fossils during excavations and or drilling activities related to the construction of the Project's Gen-Tie poles. The Gen-Tie poles will be located at the south end of the Project site and extend south across Drew Road and State Route 98 into the existing Drew Switchyard. The location of the poles to support the two Gen-Tie lines are located outside of the agricultural fields (i.e. the proposed solar field parcels) and have not been subject to the same extensive agricultural disturbances. The alignment of the Gen-Tie poles will extend approximately 400 feet south of the southern limits of the net farmable area of the Project APE. The Gen-Tie transmission structures will require drilling to a maximum depth of 10 feet for pole foundations (Dudek 2018a, p. 35). At this depth, it is possible that fossils may be encountered. However, it is acknowledged that drilling operations for the Sempra-Intergen transmission line encountered fossil-bearing lake sediments from the surface to depths of at least 25 feet. Additional information from monitoring of the Sempra-Intergen transmission line suggests that the Quaternary alluvium in the central portion of the north-south Gen-Tie lines alignment through BLM land is only 8- to 10-feet thick. Drilling operations through the alluvium would likely encounter underlying fossil-bearing beds of the Lake Cahuilla deposits (Imperial County 2011, p. 3.13-3). Therefore, the potential to damage non-renewable fossil remains during construction is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

During operations and maintenance of the Project, no additional impacts to nonrenewable fossil remains would be anticipated because the soil disturbance would have already occurred and been mitigated during construction. Therefore, impacts to nonrenewable fossil remains during operation of for both the Full Build-out Scenario and Phased CUP Scenario are considered **less than significant**.

Decommissioning/Reclamation

Decommissioning activities will consist of the removal of solar panels and related utility equipment. During Project decommissioning, no additional impacts to fossil remains would be anticipated because the area of ground disturbance will be the same as the locations of disturbance that occurred during construction. As such, no further disturbance of potential paleontological resources is expected to take place during decommissioning. Therefore, impacts related to fossil remains during decommissioning/reclamation of the Full Build-out Scenario and Phased CUP Scenario are considered **less than significant**.

Mitigation Measures

MM 4.6.8 Qualified Paleontological monitor(s) shall be hired to oversee excavations or drilling activities greater than 10 feet in depth. Monitors shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. Fossil specimens shall be curated by accessioning into an established, accredited museum repository with permanent retrievable paleontological storage. A report of findings with an appended itemized inventory of specimens shall be prepared. Submittal of the report and inventory to the Imperial County Planning and Development Services Department, along with confirmation of the curation of recovered specimens into an established, accredited museum repository, shall signify completion of the program to mitigate impacts to paleontological resources.

Timing/Implementation: *During construction involving drilling or excavations to depths of 10 feet or more.*

Enforcement/Monitoring: *Paleontological Monitor and Imperial County Planning and Development Services Department.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.4 (identified in Section 4.7 Cultural Resources & Tribal Cultural Resources), would employ paleontological monitoring during excavations or drilling that would be at depths of 10 feet or more. The paleontologist would be empowered to determine the level of monitoring necessary; to halt or divert construction away from large specimens; and to curate fossil specimens. In addition, paleontological monitoring shall be required if decommissioning activities reach a certain depth. Implementation of mitigation measure MM 4.7.4 would reduce impacts to paleontological resources to **less than significant** for both the Full Build-out Scenario and Phased CUP Scenario.

4.6.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the cumulative geology and soils setting is the Imperial Valley portion of the Salton Trough physiographic province of Southern California. In general, geology and soils impacts are site-specific and limited to the boundaries of a proposed project rather than cumulative in nature. Project-specific impacts within the geographic scope are based on the soil characteristics and topography of each solar field site parcel. A list of proposed, approved and reasonably foreseeable projects in the region is identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. All of these are located in the geologic scope for geology and soils and paleontological resources.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Exposure to Geologic and Seismic Impacts

Impact 4.6.9 Implementation of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the region, may result in cumulative exposure to geologic and seismic hazards. However, geologic and seismic hazards are analyzed and mitigated on a project-by-project basis. Therefore, cumulative exposure to geologic and seismic impacts is considered **less than cumulatively considerable**.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Potential exposure to ground-shaking impacts occurring during construction would be addressed at the Project-specific level through compliance with the 2016 CBC as specified in MM 4.6.1. Potential soil liquefaction, expansive soils and corrosive soils occurring during construction would be addressed at the Project-specific level through preparation of a Final Geotechnical and Geohazards Report as specified in MM 4.6.2. Soil erosion would be controlled on-site with site-specific measures, a grading plan approved by the County Engineer; implementation of a Dust Control Plan for control of fugitive dust during construction as required by ICAPCD Regulation VIII, Fugitive Dust Rules (refer to Section 4.4, Air Quality); and compliance with the NPDES Construction General Permit and compliance with the required Storm Water Pollution Prevention Plan (SWPPP) (refer to Section 4.11, Hydrology and Water Quality). Soil corrosivity issues would be controlled through at the Project-level through implementation of mitigation measures MM 4.6.7a and MM 4.6.7b.

Geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. Therefore, geology and soils impacts occurring during construction are not expected to combine with similar impacts of the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Analysis and Assumptions Used. Therefore, Project construction would have a **less than cumulatively considerable contribution** to geology and soils impacts. Likewise, cumulative impacts associated with geology and soils occurring during Project construction would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased Build-out Scenario.

Operation

Alquist-Priolo Earthquake Fault/Strong Seismic Ground Shaking

As discussed above, the solar field site parcels are located in a seismically active area and are susceptible to seismic ground shaking in the event of an earthquake. Specifically, CUP#17-0035 and CUP#18-0001 are impacted by an Alquist-Priolo Earthquake Fault. Mitigation measure MM 4.6.1 requires that a Fault Hazard Study be prepared to address potential impacts from the fault. Mitigation measure MM 4.6.2 requires structures to be designed and built in conformance with the 2016 CBC. Both measures would be implemented prior to Project construction. As such ground shaking impacts are anticipated to be less than significant during the Project operations. Further, geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. As such, ground shaking impacts associated with Project operations are not expected to combine with the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to ground shaking impacts. Likewise, cumulative impacts associated with ground shaking during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario.

Liquefaction

As discussed above, the Project is located in an area potentially subject to liquefaction and ground failure. Mitigation measure MM 4.6.2, which requires that the Project be designed in accordance with a Final Geologic and GeoHazards Report, would be implemented prior to and during the construction phase of the proposed Project. As such liquefaction impacts would be reduced to less than significant levels during the Project operations as a result of soil and foundation engineering. Geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA which are addressed on a project-by-project basis through engineering or avoidance. As such, operation-phase liquefaction and ground failure related impacts are not expected to combine with the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to exposure to liquefiable soils. Likewise, cumulative impacts associated with liquefaction during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario.

Soil Erosion

Operation-phase soil erosion would be controlled on site with site-specific measures incorporated into a Project-specific SWPPP, implementation of a Dust Control Plan (Rule 801), and mandatory on-going BMP maintenance activities by each CUP owner, subject to monitoring by the County Further, soil erosion impacts are considered potentially significant short-term, site-specific impacts under CEQA. Therefore, operation-phase soil erosion impacts are not expected to combine with the proposed, approved, and

reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to exposure to soil erosion. Likewise, cumulative impacts associated with soil erosion during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario.

Expansive Soils

As discussed above, much of the near surface soils within the Project site consist of silty clays and clay having a moderate to high expansion potential. Mitigation measure MM 4.6.2, which requires that all CUPs be designed in accordance with a Final Geologic and GeoHazards Report, would be implemented prior to and during the construction phase of the proposed Project. As such ground shaking impacts are anticipated to be less than significant during the operation phase of the Project. Further, geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. As such, Project operation-phase expansive soils impacts are not expected to combine with the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to exposure to expansive soils. Likewise, cumulative impacts associated with expansive soils during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario.

Soil Capability to Support Septic Systems

As discussed above, development of all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) where an O&M building is proposed requiring an on-site wastewater treatment system would be governed by the State Water Resources Control Board's OWTS Policy as well as all applicable provisions of the Imperial County Code. As compliance with these requirements is mandatory, impacts related to septic-capable soils are anticipated to be less than significant during the Project's operation phase. Further, geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. As such, operation-phase septic-capable soils impacts are not expected to combine with the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to soil capability with regard to supporting septic systems. Likewise, cumulative impacts associated with soil capability supporting septic systems during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario.

Corrosive Soils

As discussed above, all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) are located in areas containing corrosive soils. Mitigation measures MM 4.6.7a and MM 4.6.7b, which requires that Type V Portland Cement and zinc coating be applied to steel, would be implemented prior to and during the construction phase of the proposed Project. As such corrosive soils impacts are anticipated to be less than significant during the operation phase of the Project. Further, geology and soils impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. As such, Project operation-phase corrosive soils impacts are not expected to combine with similar impacts of the proposed, approved, and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to soil corrosivity. Likewise, cumulative impacts associated with soil corrosivity during Project operations would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario**.**

Decommissioning/Reclamation

Decommissioning would entail removal of all structures from the proposed Project site (all solar site parcels/all CUPs#17-0031 thru CUP#17-0035 and CUP#18-0001), and implementation of a Reclamation Plan to return the solar site parcels their original condition. Decommissioning of the solar field site parcels would not contribute to ground shaking, liquefaction, expansive soils, septic-capable soils, or corrosive soils impacts. Soil erosion would occur during decommissioning activities as a result of earth-moving activities. Reestablishment of the solar field site parcels as active farmland could result in dust and soil disturbance similar to levels occurring under the existing active farmland conditions. Soil erosion impacts are primarily considered potentially significant short-term, site-specific impacts under CEQA. All decommissioning activities would be required to implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements in effect at the time of site closure (i.e. at the end of each CUP or 30 years, whichever is later). Similarly, all decommissioning activities would implement appropriate BMPs and other measures consistent with applicable County and RWQCB requirements in effect at the time of site closure. Therefore, the proposed Project would have a **less than cumulatively considerable contribution** to soil erosion during Project decommissioning activities. Likewise, cumulative impacts associated with soil erosion during Project decommissioning would be **less than cumulatively considerable** for both the Full Build-out Scenario and Phased CUP Scenario. Soil erosion impacts would be greatly reduced following reclamation.

Mitigation Measures

As discussed throughout this analysis, the proposed Project would be subject to a Fault Hazard Study (MM 4.6.1), all applicable building codes and standards including the 2016 CBC, as well as any further engineering requirements set forth in the Final Geotechnical and GeoHazards Report (MM 4.6.2). Likewise, the Project would be subject to further engineering with regard to liquefaction, expansive soils as well as soil corrosivity (MM 4.6.7a and MM 4.6.7b). Finally, the Project would be required to implement a Dust Control Plan, comply with the requirements of the SWRCB's General Construction Stormwater Permit (refer to Section 4.11, Hydrology and Water Quality), and prepare and implement a Project-specific SWPPP with BMPs incorporated to address potential soil erosion impacts (refer to Section 4.11, Hydrology and Water Quality). Therefore, following mitigation, cumulative geologic and seismic impacts would be reduced to **less than cumulatively considerable**.

Significance After Mitigation

Project-specific impacts are mitigated on a project-by-project basis. Upon compliance with mandatory state and local requirements (i.e. OWTS Policy, EHS Standards), and following implementation of mitigation measures MM 4.6.1, MM 4.6.2, MM 4.6.7a, and MM 4.6.7b at the Project-level, geology and soils impacts would be reduced to **less than cumulatively considerable** levels.

Cumulative Impacts to Paleontological Resources

Impact 4.6.10 Implementation of the proposed Project in combination with proposed, approved and reasonably foreseeable projects in the region identified in the cumulative setting, has the potential to result in impacts to paleontological resources including fossil remains and fossil bearing geological formations. However, such impacts are addressed on a project-by-project basis through the CEQA process. Therefore, impacts to paleontological resources are considered **less than cumulatively considerable** or both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

There is a potential for paleontological resources beneath the solar field site parcels (including areas where Gen-Tie structures would be placed) and others in the geographic scope to be impacted during

construction. A cumulative impact would occur if either the Full Build-out Scenario or Phased CUP Scenario, in combination with cumulative projects, would damage or destroy paleontological resources. However, with the implementation of mitigation measures MM 4.7.4 (identified if Section 4.7 Cultural Resources & Tribal Cultural Resources), both the Full Build-out Scenario and Phased CUP Scenario would have a less than significant impact on paleontological resources on a project-level and a **less than cumulatively considerable contribution** to cumulative impacts to paleontological resources during Project construction. Likewise, other cumulative projects would be required to comply with existing regulations and undergo CEQA review to assure that any impacts are appropriately evaluated and, if necessary, mitigated. Therefore, through compliance with regulatory requirements, standard conditions of approval, and mitigation measures MM 4.7.4, both the Full Build-out Scenario and Phased CUP Scenario would have a **less than cumulatively considerable impact** on paleontological resources during Project construction.

Operation

During Project operation, no additional cumulative impacts to paleontological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction. Therefore, a **less than cumulatively considerable contribution** to cumulative impacts to paleontological resources would occur during Project operations for both the Full Build-out Scenario and Phased CUP Scenario. Likewise, both the Full Build-out Scenario and the Phased CUP Scenario would result in **less than cumulatively considerable impacts** to paleontological resources during operation.

Decommissioning/Reclamation

Decommissioning activities will consist of the removal of solar panels and related infrastructure. Additional impacts to paleontological resources are not likely because the ground disturbance that will occur as a result of decommissioning will be in the same locations disturbed during construction. As such, no further disturbance of potential paleontological resources is expected to take place during decommissioning. Therefore, a **less than cumulatively considerable contribution** to cumulative impacts to paleontological resources would occur during decommissioning for both the Full Build-out Scenario and Phased CUP Scenario. Likewise, a **less than cumulatively considerable impact** related to paleontological resources would occur during decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

Implement mitigation measure MM 4.6.8.

Significance After Mitigation

Implementation of mitigation measure MM 4.6.8 requires that a qualified paleontologist be present to oversee excavations or drilling activities greater than 10 feet in depth. The qualified paleontologist would be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. Therefore, implementation of mitigation measure MM 4.6.8 would reduce impacts to paleontological resources to **less than cumulative considerable** for both the Full Build-out Scenario and the Phased CUP Scenario.

SECTION 4.7

CULTURAL RESOURCES & TRIBAL CULTURAL RESOURCES

This section provides a background discussion of the regulatory framework and the environmental setting with regard to cultural resources. Cultural resources consist of archaeological sites from the prehistoric and historic periods, and buildings, structures, and objects from the historic period.

The regulatory framework identifies the federal, state, and local regulations applicable to cultural resources. The environmental setting focuses on the Cultural Resource Survey Area (defined below), cultural context, record search results, field inventory results, and Native American concerns. Impacts on historic resources (i.e. significant cultural resources) that would result from implementing the Full Build-out Scenario or the Phased CUP Scenario are analyzed based on state and local laws and regulations.

Information contained in this section is summarized from multiple sources including the *Cultural Resources Inventory Report for the Drew Solar Project, Imperial County, California* (Dudek 2018a); and the *Historic Resource Evaluation for the Drew Solar Project, Imperial County, California* (Dudek 2018b). These documents are provided on the attached CD of Technical Appendices as **Appendix F** of this EIR.

4.7.1 REGULATORY FRAMEWORK

A. FEDERAL

National Register of Historic Places (NRHP)

The NRHP is the United States' official list of districts, sites, buildings, structures, and objects worthy of preservation. Overseen by the National Park Service, under the U.S. Department of the Interior, the NRHP was authorized under the National Historic Preservation Act, as amended. Its listings encompass all National Historic Landmarks, as well as historic areas administered by the National Park Service.

NRHP guidelines for the evaluation of historic significance were developed to be flexible and to recognize the accomplishments of all who have made significant contributions to the nation's history and heritage. Its criteria are designed to guide state and local governments, federal agencies, and others in evaluating potential entries in the NRHP. For a property to be listed in or determined eligible for listing, it must be demonstrated to possess integrity and to meet at least one of the following criteria:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in NRHP guidance, "How to Apply the National Register Criteria," as "the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the NRHP criteria, but it also must have integrity". NRHP guidance further asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties completed fewer than 50 years before evaluation must be proven to be "exceptionally important" (criteria consideration G) to be considered for listing.

B. STATE

Cultural Resources

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) is the state law that addresses the evaluation of a project's impacts on cultural resources. A "project" is an activity that may cause a direct or indirect physical change in the environment and that is undertaken or funded by a state or local agency, or requires a permit, license, or lease from a state or local agency. CEQA requires that impacts to "Historical Resources" be identified and, if the impacts will be significant, that mitigation measures to reduce the impacts be applied.

A "Historical Resource" is a resource that 1) is listed in or has been determined eligible for listing in the California Register of Historical Resources (CRHR) by the State Historical Resources Commission, or has been determined historically significant by the CEQA lead agency because it meets the eligibility criteria for the CRHR; 2) is included in a local register of historical resources, as defined in Public Resources Code (PRC) 5020.1(k); or 3) has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g) [CCR Title 14, Section 15064.5(a)].

The eligibility criteria for the CRHR are as follows [CCR Title 14, Section 4852(b)]:

(1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

(2) It is associated with the lives of persons important to local, California, or national history;

(3) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or

(4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition, the resource must retain integrity. The integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Resources that have been determined eligible for the National Register of Historic Places (NRHP) are automatically eligible for the CRHR.

Archaeological sites are usually evaluated under Criterion 4, the potential to yield information important in prehistory. An archaeological test program may be necessary to determine whether the site has the potential to yield important data. Imperial County, as the CEQA lead agency, makes the determination of eligibility based on the results of the test program.

The following CEQA statutes and CEQA Guidelines are of relevance to the analysis of archaeological and historic resources:

1. PRC section 21083.2(g): Defines "unique archaeological resource."
2. PRC section 21084.1 and CEQA Guidelines section 15064.5(a): Define historical resources. In addition, CEQA Guidelines section 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource;" it also defines the circumstances when a project would materially impair the significance of a historical resource.
3. PRC section 5097.98 and CEQA Guidelines section 15064.5(e): Set forth standards and steps to be employed following the accidental discovery of human remains in any location other than a dedicated cemetery.

4. PRC sections 21083.2(b)-(c) and CEQA Guidelines section 15126.4: Provide information regarding the mitigation framework for archaeological and historic resources, including options of preservation-in-place mitigation measures; preservation- in-place is the preferred manner of mitigating impacts to significant archaeological sites because it maintains the relationship between artifacts and the archaeological context, and may also help avoid conflict with religious or cultural values of groups associated with the archaeological site(s).

Under CEQA, a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource" (PRC section 21084.1; CEQA Guidelines section 15064.5(b)). If a site is either listed or eligible for listing in the CRHR, or if it is included in a local register of historic resources, or identified as significant in a historical resources survey (meeting the requirements of PRC section 5024.1(q)), it is a "historical resource" and is presumed to be historically or culturally significant for purposes of CEQA (PRC section 21084.1; CEQA Guidelines section 15064.5(a)). The lead agency is not precluded from determining that a resource is a historica resource even if it does not fall within this presumption (PRC section 21084.1; CEQA Guidelines section 15064.5(a)).

A "substantial adverse change in the significance of an historical resource" reflecting a significant effect under CEQA means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines section 15064.5(b)(1); PRC section 5020.1(q)). In turn the significance of a historical resource is materially impaired when a project:

1. 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 California Register; or

2. Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of PRC or its identification in an historical resources survey meeting PRC section 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

3. Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA.

Native American Historic Cultural Sites (PRC section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NRHP to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to 1 year in jail to deface or destroy an Indian historic or cultural site that is listed or may be eligible for listing in the CRHR.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act (California Repatriation Act), enacted in 2001, required all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete

an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California Repatriation Act also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code, Section 7050.5

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 section 7050.5 requires that if human remains are discovered in any place other than a dedicated cemetery, no further disturbance or excavation of the site or nearby area reasonably suspected to contain human remains shall occur until the County coroner has examined the remains (section 7050.5b). If the coroner determines or has reason to believe the remains are those of a Native American, the coroner must contact the NAHC within 24 hours (section 7050.5c). The NAHC will notify the Most Likely Descendant. With the permission of the landowner, the Most Likely Descendant may inspect the site of discovery. The inspection must be completed within 24 hours of notification of the Most Likely Descendant by the NAHC. The Most Likely Descendant may recommend a means of treating or disposing of, with appropriate dignity, the human remains and items associated with Native Americans.

AB 4239

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

Senate Bill 18

California Senate Bill 18 (SB 18), which took effect on March 1, 2005, requires local (city and county) governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places in creating or amending general plans, including specific plans (Government Code section 65352.3). The County of Imperial sent letters to Tribes in the area soliciting consultation under SB 18.

Tribal Cultural Resources

Assembly Bill 52

California Assembly Bill 52 (AB 52), which took effect July 1, 2015, establishes a consultation process between California Native American Tribes and lead agencies in order to address tribal concerns regarding project impacts and mitigation to "tribal cultural resources" (TCR). PRC section 21074(a) defines TCRs and states that a project that has the potential to cause a substantial adverse change to a TCR is a project that may have an adverse effect on the environment. A TCR is defined as a site, feature, place, cultural landscape, sacred place, and object with cultural value to a California Native American tribe that is either:

1. Listed or eligible for listing in the CRHR or a local register of historical resources, or
2. Determined by a lead agency to be a TCR.

The County of Imperial sent letters to Tribes in the area soliciting consultation under AB 52.

Traditional Cultural Properties

Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Also potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties in discussions of cultural resource management performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include:

1. A location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
2. A rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
3. An urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
4. A location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
5. A location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

A Traditional Cultural Property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community.

C. LOCAL

Cultural Resources

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, and policies for the identification and protection of significant cultural resources. Specifically, 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. **Table 4.7-1** provides a consistency analysis of the goals, objectives and policies of the Imperial County General Plan relevant to cultural resources as they relate to the proposed Project. While this EIR analyzes the Project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d) and can be a source of substantial evidence in support of a consistency finding, the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.7-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Polices	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Preservation of Cultural Resources		
Goal 3: Preserve the spiritual and cultural heritage of the diverse communities of Imperial County.	Yes	The proposed Project would not impact the spiritual or cultural heritage of any community in the County. Mitigation Measures MM 4.7.2a, MM 4.7.2b, MM 4.7.3 and MM 4.7.4 are identified to address impacts should any archaeological sites and unknown subsurface human remains be identified. Therefore, the proposed Project is consistent with this goal under both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 3.1 Protect and preserve sites of archaeological, ecological, historical, and scientific value, and/or cultural significance.	Yes	A cultural resources survey was conducted for the proposed Project. As discussed under Impact 4.7.2, no known archaeological resources were identified during the Records Search or pedestrian survey. However, the potential exists for unanticipated archaeological resources to be discovered during construction. Mitigation measure MM 4.7.2a and MM 4.72b have been identified to reduce potential impacts to the archaeological sites, including provision of a monitor from the Campo Band of Mission Indians. No other known archaeological, ecological or historical sites with scientific value or cultural significance are known to exist within the Cultural Resource Survey Area. Therefore, the proposed Project is consistent with this objective under both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 3.3: Engage all local Native American Tribes in the protection of tribal cultural resources, including prehistoric trails and burial sites.	Yes	The County of Imperial, as the Lead Agency, has sent consultation letters for AB 52 and SB 18 to all pertinent local tribes. Therefore, the proposed Project is consistent with this Objective under both the Full Build-Out Scenario and Phased CUP Scenario.

4.7.2 ENVIRONMENTAL SETTING

A. PROJECT SITE

The Drew Solar Project is located in the Colorado Desert. The Project APE is bordered by the Westside Main Canal to the west; Greeson Drain to the east, Kubler Road to the north, and the U.S. Mexico international border to the south. It is mostly comprised of agricultural land and open space considered part of the Imperial Valley.

For detailed discussion relating to the environmental context of this area, please consult the biological, geological and other technical studies prepared for Drew Solar Project (Dudek 2018a, p. 13) provided as **Appendix E** of this EIR.

Cultural Resources

The setting for Cultural Resources consists focuses on the cultural sequence for the Colorado Desert which is viewed in terms of specific time periods. These include Late Pleistocene, Terminal Pleistocene-Very Early Holocene, Mid-Holocene, Late Holocene, the Ethnohistoric Period, and Historic Period. A full discussion of the Cultural Resources setting is provided in the *Cultural Resources Inventory Report for the Drew Solar Project, Imperial County, California* (Dudek 2018a) included as part of **Appendix F** of this EIR.

Cultural Resources in the Project Area

Previously Conducted Cultural Resources Studies

Thirteen (13) cultural resources studies have been previously conducted within one mile of the Project area. None of these are located within the Project Area of Potential Effect (APE). All 13 studies were conducted between 1975 and 2012. Two studies (IM-01442 and IM-01515) that were conducted adjacent to the Drew Solar Project are detailed in **Table 4.7-2** and are discussed following the table.

TABLE 4.7-2
PREVIOUS CULTURAL RESOURCES STUDIES WITHIN THE PROJECT APE

Year	Author	SCIC Report ID	Report Title
Outside of the Project APE			
1979	Gallegos, Dennis	IM-00203	Class II Cultural Resource Inventory East Mesa and West Mesa Regions Imperial Valley, California, Volume I
1980	Davis, Emma Lou	IM-00207	Class II Cultural Resource Inventory East Mesa and West Mesa Regions Imperial Valley, California
1980	Von Werlhof, Jay and Karen McNitt	IM-00210	Archaeological Examinations of the Republic Geothermal Field, East Mesa, Imperial County
1999	Hupp, Jill	IM-00698	Historical Architectural Survey Report Pavement Rehabilitation and Shoulder, Bridge, Culvert Widening Project, Imperial County, California

TABLE 4.7-2
PREVIOUS CULTURAL RESOURCES STUDIES WITHIN THE PROJECT APE

Year	Author	SCIC Report ID	Report Title
1999	Schaeffer, Jerry, Drew Pallette, Collin O'Neill, and Jim Eighmey	IM-00766	Extended Phase I Study of Eight Archaeological Sites (Ca-Imp-1427, -3969, -6914, -6915, -6916, -6918, -6920, -6923) on State Route 98, Imperial County, California
1990	Pigniolo, Andrew, Roxanna Phillips, and Dennis Gallegos	IM-1057	Cultural Resource Study of the Mount Signal and Dixie Ranch Imperial County Prison Alternatives Imperial County, California
1975	Ritter, Eric W.	IM-01275	An Analysis of Culture Resources Along the Proposed Yuha Desert Off-Road Vehicle Courses
2011	Mitchell, Patricia T.	IM-01464	Inventory Report of The Cultural Resources Within the Centinela Solar Energy Gen-Tie Line, Imperial County, California
2011	Pigniolo Andrew, Carol Serr, Jose Aguilar, and Frank Dittmer	IM-01442	Cultural Resource Survey for a Portion of the Centinela Solar Energy, LLC Project Area Imperial County, California
2012	Mitchell, Patricia	IM-01490	Evaluation Letter Report for the Centinela Solar Energy Gen-Tie Line Project, Imperial County, California
2011	Glenny, Wayne	IM-01498	Draft Archaeological Survey Investigation for the San Diego County Water Authority Fish Pond Imperial County, California
2011	Davis, Shannon, Jennifer Krintz, Shelby Gunderman, & Sinead Ni Ghabhlain	IM-01515	Inventory, Evaluation, and Analysis of Effects on Historic Resources Within the Area of Potential Effect of the Centinela Solar Energy, LLC Imperial County, California
2011	Davis, Shannon	IM-01516	Final Inventory, Evaluation and Analysis of Effects on Historic Built Environment Properties Within the Area of Potential Effect of the Imperial Solar Energy Center South Imperial County, California

Source: Dudek 2018a.

IM-01442

Laguna Mountain Environmental conducted an archaeological survey of approximately 2,165 acres of agricultural land as part of the Centinela Solar Energy (CSE) Project, Imperial County, in 2011. The CSE Project is located directly east of the proposed Drew Solar Project. The study addressed the CSE Project portions that are located on private lands. The archaeological investigation included a Records Search at the South Coastal Information Center (SCIC) of the Project Area and a one-mile buffer around the Project, as well as a literature review; review of historic maps; and an intensive pedestrian survey.

The Records Search indicated that nine cultural resources have been identified within a one-mile radius of the project area; two of which are located within the project (CA-IMP-6641, a lithic and ceramic scatter associated with the past shoreline of Lake Cahuilla, and P -13-008983, a segment of a historic age agricultural irrigation canal).

The field survey identified 13 previously unrecorded historic-age cultural resources within the project area. The resources include segments of the Woodbine Canal and Laterals (P-13-013073,-013074,-013075,-013076,-013077), portions of the Brockman Drain (P-13-013078), portions of the Mt. Signal Drain (P-13-013079 and P-13- 013080), the Carpenter Drain (P-13-013081), the Wells Drain (P-13-013082), two historic residential structures (P-13-013083 and P-13-013084), and a historic isolate (P-13-13085). During the field survey, the archaeological crew relocated one (P-13-008983) of the two previously recorded cultural resources.

Archaeological monitoring was recommended during all ground disturbing activities due to the presence of CA-IMP-6631 within the project area. No formal evaluations of the various irrigation canals or the residential structures were conducted by Laguna Mountain Environmental. However, Laguna Mountain Environmental recommended that impacts to the irrigation structures be avoided during CSE Project implementation and that the resources should be incorporated into open space easements. If the structures could not be avoided during the CSE Project implementation, additional documentation and recording was recommended to evaluate and mitigate impacts to the resources.

IM-01515

ASM Affiliates Inc. conducted a survey and evaluation for historic resources for the CSE Project, Imperial County, California in 2011. The CSE project is located directly east of the proposed Drew Solar Project. The study identified and evaluated historic resources within the project area for eligibility for inclusion in the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR).

The study identified sixteen (16) historic resources that are more than 45 years old located within the Project APE: the Westside Main Canal, Wormwood (P-13-8983) and Woodbine (P-13-13073) Canals, the town of Mount Signal, three (3) farm complexes, an agricultural building, and eight (8) residential buildings,. One NRHP eligible historic resource, the Westside Main Canal (CA-IMP-7834), was identified. ASM's evaluation determined that the CSE Project would have no direct or indirect (e.g., visual) impacts the Westside Main Canal during project implementation. The other fifteen (15) historic resources were determined ineligible for listing in the NRHP and the CRHR.

Previously Recorded Cultural Resources within One-Mile of the Project Area

The SCIC records indicate that no previously recorded cultural resources are located within the Project APE. As shown in **Table 4.7-3**, the records also indicate that an additional sixteen (16) cultural resources have been recorded within the one-mile search buffer of the proposed Project. Three of the previously recorded resources (P-13-8983, P-13-13073, and P-13-13079) and are located directly adjacent to the current Project. These three resources are discussed following the table. Of the sixteen cultural resources, three (P-13-8334, P-13-8983, and P-13-13073) have been evaluated and have been determined not eligible for listing on the CRHR and the NRHP.

TABLE 4.7-3
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN ONE-MILE OF THE PROJECT APE

Primary Number	Trinomial	Resource Type	Description	Recorded By/Date	NRHP/ CRHR Status
P-13-008334	CA-IMP-8334	Historic	Westside Main Canal	AECOM, 2011	Not Eligible
P-13-008983	-	Historic	Wormwood Canal, Lateral-7	Jill Hupp, 1999; Frank Dittmaer and Alette van den Hazelkamp,2010; Jennifer Krintz, 2011	Not Eligible
P-13-013073	-	Historic	Woodbine Canal and Laterals 2,4,7,8	Andrew Pigniolo, 2010; Jennifer Krintz, 2011	Not Eligible
P-13-013074	-	Historic	Woodbine Lateral 7	Andrew Pigniolo, 2010	No Formal Recommendation
P-13-013075	-	Historic	Woodbine Lateral 7A	Pepe Aguilar, 2010	No Formal Recommendation
P-13-013078	-	Historic	Brockman Drain	Pepe Aguilar, 2010	No Formal Recommendation
P-13-013079	-	Historic	Mount Signal Drain	Andrew Pigniolo, 2010	No Formal Recommendation
P-13-013081	-	Historic	Carpenter Drain	Frank Dittmer, 2010	No Formal Recommendation
P-13-013083	-	Historic	Single Family Residence	Pepe Aguilar, 2010	No Formal Recommendation
P-13-013084	-	Historic	Single Family Residence	Pepe Aguilar, 2010	No Formal Recommendation
P-13-013837	CA-IMP-11784	Historic	Historic Refuse Scatter	M. Bray, 2011	No Formal Recommendation

Source: Dudek 2018a.

P-13-8983 (Wormwood Canal, Lateral 7 and Drain)

This irrigation canal was originally recorded by Jill Hupps of Caltrans in 1999. This section of the Wormwood Canal, which was first built in 1911, was evaluated and recommended not eligible for listing in the NRHP because it was realigned and lined with concrete, replacing its original earthen lining, thereby affecting the resource's integrity. ASM Affiliates Inc. revisited and evaluated the canal in 2011 for the CSE Project. ASM concurred with Caltrans findings and recommended that the Wormwood Canal and Drain are not eligible for listing in the NRHP and the CRHR.

P-13-13073 (Woodbine Canal)

Andrew Pigniolo of Laguna Mountain Environmental recorded this segment of the Woodbine Canal in 2010. According to Pigniolo, the canal was one of the earliest irrigation canals in the Imperial Valley as it is shown on the 1915 El Centro 15-minute United States Geological Service (USGS) topographic quadrangle map. ASM Affiliates Inc. revisited and evaluated the canal in 2011 for the CSE Project. ASM determined that the canal was not significant because it was lined with concrete in the 1950s and 1960s. The integrity of the original 1915 craftsmanship was not retained therefore the canal was not recommended eligible for the NRHP or the CRHR.

P-13-13079 (Mt. Signal Drain)

Andrew Pigniolo of Laguna Mountain Environmental recorded this segment of the Mt. Signal Drain in 2010. Pigniolo noted that no historic age features were observed associated with the drain and that the drain is part of a larger historic age agricultural system. No formal evaluation was conducted for the resource.

Native American Consultation

Sacred Lands File Search

On November 16, 2017, Dudek requested a search of the Sacred Lands Files from the Native American Heritage Commission (NAHC). A response letter was received via email from the NAHC on November 17, 2017, stating that the results of the Sacred Lands File search failed to indicate the presence of Native American cultural resources in the Project APE. The NAHC also provided a list of Native American groups and individuals who may have knowledge of cultural resources in the Project area. Letters were sent to each of the representatives November 28, 2017 for any knowledge of resources in the Project APE (Appendix B of **Appendix E** of this EIR). A response letter, dated December 20, 2017, has been received from the Viejas Band of Kumeyaay Indians. The Tribe states that the Project area may contain sacred sites to the Kumeyaay people and requests that the sites, if inadvertently discovered, be avoided with adequate buffer zones and treated accordingly. No additional responses have been received to date. If responses are received, they will be forwarded to the lead agency. The coordination conducted here does not constitute formal AB 52 or SB 18 consultation.

Under CEQA, the lead agency is required to perform formal government-to-government consultation with Native American Tribes under AB 52 and SB 18.

SB 18

Prior to the adoption 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 NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. On June 7, 2018, the County of Imperial sent letters requesting consultation to the following tribes:

- Augustine Band of Cahuilla Mission Indians
- Campo Band of Mission Indians
- Chemehuevi Reservation
- Cocopah Indian Tribe
- Colorado River Indian Tribe
- Ewiiaapaayp Tribal Office
- Fort Yuma Quechan Indian Tribe

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- Inter-Tribal Cultural Resource Protection Council
- Kumeyaay Cultural Repatriation Committee
- La Posta Band of Mission Indians
- Manzanita Band of Kuymeyaay Nation
- Torrez-Martinez Desert Cahuilla Indians
- Torres Martinez Indian Tribe
- Native American Heritage Commission
- Kwaaymiii Laguna Band of Mission Indians

No requests for consultation were received.

Field Survey

Dudek archaeologists conducted an intensive-level pedestrian survey of the Project APE from November 20 to November 22, 2017 using standard archaeological procedures and techniques. **Figure 4.7-1** shows the Project APE. The proposed alignment for the two Gen-Tie lines was surveyed within a 100-foot corridor (two transects) measured from the center line. Within each transect, the ground surface was examined for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools, ceramics, fire- affected rock), soil discoloration that might indicate the presence of a cultural midden, soil depressions, features indicative of the current or former presence of structures or buildings (e.g., standing exterior walls, post holes, foundations), and historic artifacts (e.g., metal, glass, ceramics, building materials). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected for exposed subsurface materials. No artifacts were collected during the surveys. Nine newly identified cultural resources, consisting of historic age irrigation canals and drainages, were identified within the Project APE. The resources are temporarily designated as: DS-I-1, DS-I-2, DS-I-3 (Wormwood Lat 1 segment), DS-I-4, DS- I-5 (Woodbine canal segment), DS-I-6 (Mt. Signal Drain Segment), DS-I-7 (Woodbine Lat 7 segment), DS-I-8, and DS-I-9 (Mt. Signal Drain 1-B). The resources were recorded on Department of Parks and Recreation (DPR) 523 series forms.

All fieldwork was documented using field notes and iPad technology with close-scale field maps, and aerial photographs. Location-specific photographs were taken using an Apple 3rd Generation iPad equipped with eight (8) mega-pixel (MP) resolution and georeferenced PDF maps of the Project site.

Accuracy of this device ranged between 3 and 10 meters (i.e. 9’1” or 36’1”). All field notes, photographs, and records related to the current study are on file at Dudek’s Encinitas, California office.

Documentation of DS-I-1, DS-I-2, DS-I-3, DS-I-4, DS-I-5, DS-I-6, DS-I-7, DS-I-8, and DS-I-9 (Mt. Signal Drain 1-B) complied with the Office of Historic Preservation (OHP) and Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716 - 44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). The Department of Parks and Recreation (DPR) Form will be submitted to the SCIC.

Survey Results

The majority of the Project APE is located within agricultural fields. The Project’s two Gen-Tie lines are proposed to extend from the south end of the Project APE across Drew Road and State Route 98 into the existing Drew Switchyard. Ground surface visibility was poor (0–20) within areas with dense vegetation present (non-native grasses and alfalfa fields) and within paved roads. Visibility was excellent (80–100%) in areas with no vegetation and within dirt access roads. Vegetation was not present in the southwestern field (Assessor’s Parcel Number [APN] 052-170-067) of the Project. Transects

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FIGURE 4.7-1
CULTURAL STUDY AREA

spaced approximately 15 meters (approximately 49'1") apart were utilized to ensure adequate coverage of the entire APE. Archaeologists observed that the APE has been heavily disturbed by years of agricultural activities as evidenced by plow scars, irrigation canals and drainages, and the presence of non-native grass and alfalfa fields.

During the field survey, nine historic age irrigation canal/drainage segments were identified. These irrigation canals have not been previously recorded or evaluated. The canals were recorded and documented on DPR 523 series forms during the survey. No additional cultural resources or materials were identified during the pedestrian survey.

Newly Identified Resources

Nine newly identified historic age cultural resources were recorded during the current survey. These new resources consist of irrigation canals and drainages. Based on historic aerials and available date stamps, the canals are historic in age. The canals are built environment resources and will be addressed in a separate study and included as an addendum to this cultural resources inventory report (Dudek 2018a, p. 32).

DS-I-1

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation canal. The canal is earthen and aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately one half-mile long. A crossing with a concrete pipe (measuring approximately two feet in diameter and twelve feet in length) is located in the center of the canal. Discarded terra cotta bricks and concrete fragments are present at the pipe location. No visible date stamp is available for the canal or the pipe.

DS-I-2

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation canal. The canal is earthen and aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately half- mile long. A crossing with a concrete pipe, measuring two feet in diameter and ten feet in length, is located in the center of the canal. No visible date stamp is available for the canal or the pipe.

DS-I-3

This newly discovered resource was identified during the intensive pedestrian survey and consists of a segment of the Wormwood Lateral 1 irrigation canal. The canal is concrete lined and aligns north to south. The southern portion of the canal extends under County Highway S29 (S29) and continues south. The canal is approximately ten feet wide and six feet in depth. The entire canal is approximately one half-mile long. A concrete wall with the text stamp "Wormwood LAT 1" and two concrete and wood gates (Gates lat-1 and 11) are located at the southern end of the canal. A third concrete and wood gate (Gate 13) is located just south of S29. The southern gates have a date stamp of 1957. Two additional concrete and wood gates (Gates 11A and 12) are located within the center on the canal. These gates have a date stamp of 1953.

DS-I-4

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation canal. The canal is concrete lined and aligns east to west. The canal is approximately eight feet wide and four feet in depth. The entire canal is approximately one half-mile long, and connects to DS-I-7 (Woodbine Lat 7 Canal) to the east at Gate 42. Small metal gates (measuring approximately 12 inches) are located along the northern portion of the canal in fifty-foot intervals. These gates appear to feed water to the field located to the north of the canal. No visible date stamp is available for the canal.

DS-I-5

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation canal. The canal is concrete lined and aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately one half-mile long. A concrete gate (Gate 57) is located at the east end of the canal. The gate has a date stamp of 1959. This canal segment connects to the Woodbine Canal at Gate 57 to the north.

DS-I-6

This newly discovered resource was identified during the intensive pedestrian survey and consists of a segment of the Mount Signal Drain and Mount Signal Drain 1. Mount Signal Drain is earthen and aligns north to south. Mount Signal Drain 1 aligns east to west from the Mount Signal Drain. The drainage is approximately eight-feet wide and ten feet in depth. The length of the drain is approximately two miles. No visible date stamp is available for the drain.

DS-I-7

This newly discovered resource was identified during the intensive pedestrian survey and consists of a segment of the Woodbine Lateral 7 irrigation canal. The canal is concrete lined and aligns north to south. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately one mile long. DS-I-4 connects to this canal at Gate 42. No visible date stamp is available for this segment of the canal.

DS-I-8

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation drainage. The drainage is earthen and aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately 0.25-miles long. No visible date stamp is available for the canal.

DS-I-9

This newly discovered resource was identified during the intensive pedestrian survey and consists of a historic age irrigation drainage. The canal is earthen and aligns east to west; with the western end curving and continuing towards the south. The canal is approximately ten-feet wide and five feet in depth. The entire canal is approximately 0.70-miles long. No visible date stamp is available for the canal.

Historic Resource Evaluation for the Drew Solar Project, Imperial County, California

A Historic Resource Evaluation report was prepared by Dudek architectural historians Sarah Corder, MFA and Samantha Murray, MA, both of whom meet the Secretary of the Interior's Professional Qualification Standards for architectural history. The report identified nine cultural resources that were discovered within the Project Area during the intensive-level pedestrian survey conducted by Dudek on November 20, 2017 and February 21, 2018. The nine cultural resources included historic irrigation canals designated as: DS-I-1, DS-I-2, DS-I-3 (Wormwood Lateral 1 segment); DS-I-4, P-13-013073 (Woodbine canal segment); P-13-013079 (Mt. Signal Drain Segment); P-13-013074 (Woodbine Lateral 7); DS-I-8 (Carr Drain); and DS-I-9 (Mt. Signal Drain No. 1-B)

DS-I-1

Located between APN 052-170-039 and APN 052-170-067. The resource is bound by fallow agricultural land to the north and south, Drew Road to the east, and the Westside Main Canal to the west. The resource consists of a historic-age earthen canal that aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately one half-mile long. A crossing with a concrete pipe, measuring approximately two feet in diameter and twelve feet in length, is located in the center of the canal. Discarded terra cotta bricks and concrete fragments are present at the pipe location. No visible date stamp is available for the canal or the pipe. The canal is in fair condition (see **Photo 4.7-1**).

Photo 4.7-1. DS-I-1 – Overview of canal and concrete pipe drain looking west, 11/20/17.

Evaluation of the DS-I-1 under NRHP/CRHR criteria included archival research. The date of construction for the earthen irrigation canal was not found during archival research, but a review of historic aerial photographs indicates that the canal was present in 1953 (Dudek 2018b, p. 23). No previous recordings or evaluations of this canal segment were identified as a result of the California Historical Resources Information System (CHRIS) records research.

Despite the association with irrigation history and agricultural development in Imperial County, the lack of clear association with larger canals in the area suggests that this was a canal used by a single property owner for agricultural purposes and not part of a larger and more complex infrastructure. Thus, it does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen canal segment is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. Therefore, DS-I-1 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-1 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the concrete lateral canal segment retains requisite integrity of location, design, setting, workmanship, feeling, and association, it has no important historical associations and lacks architectural merit. As such, DS-I-1 is recommended not eligible under all NRHP and CRHR designation criteria.

DS-I-2

Located on APN 052-170-056. The resource is bound by fallow agricultural land to the north and south, Drew Road to the west, and Mount Signal Drain to the east. This resource consists of a historic age irrigation canal. The canal is earthen and aligns east to west. The canal is approximately ten feet wide and five feet in depth. The entire canal is approximately one half-mile long. A crossing with a concrete pipe and gate,

measuring two feet in diameter and ten feet in length, is located in the center of the canal. No date stamp was observed for the canal or the pipe during the survey. The canal is in good condition and is likely maintained regularly (see **Photo 4.7-2**).

Photo 4.7-2. DS-I-2 – Overview of canal and concrete gate looking northeast, 11/20/17.

Evaluation of the DS-I-2 under NRHP/CRHR criteria included archival research. The date of construction for the earthen irrigation canal was not found during archival research, but a review of historic aerial photographs indicates that the canal was present in 1953 (Dudek 2018b, p. 24). No previous recordings or evaluations of this canal segment were found during the course of archival research. Despite the association with irrigation history and agricultural development history in Imperial County, the lack of clear association with larger canals in the area suggests that this was a canal used by a single property owner for agricultural purposes and not part of a larger and more complex infrastructure thus it does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen canal segment is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. Therefore, DS-I-2 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-2 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the earthen canal retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association it has no important historical associations and lacks architectural merit. As such, DS-I-2 is recommended not eligible under all NRHP and CRHR designation criteria.

DS-I-3 (Wormwood Lateral 1 Segment)

Located on APN 052-170-056, this historic resource consists of a segment of the Wormwood Lateral 1 irrigation canal. The canal aligns parallel and east of Drew Road. The southern portion of the canal ends at SR-98. This is an earthen canal and aligns north to south. It measures approximately ten feet wide by six feet in depth. The entire canal is approximately one half-mile long. A concrete wall with the text stamp "Wormwood LAT 1" and two concrete and wood gates (Gates lat-1 and 11) are located at the southern end of the canal. The southern gates have a date stamp of 1957. Two additional concrete and wood gates (Gates 11A and 12) are located within the center on the canal. These gates have a date stamp of 1953. The canal is in good condition and is likely maintained regularly (see **Photo 4.7-3**).

Evaluation of the DS-I-3 under NRHP/CRHR criteria included archival research and review of previous evaluations of sections of the Wormwood Canal and the surrounding area. Constructed in 1911, the Wormwood Canal was one of the early canals in the Imperial County Irrigation District. In 1999, a section of Wormwood Canal was evaluated by Caltrans and recommended not eligible for listing in the NRHP due to alterations including lining the canal with concrete and realignment of the canal. In 2011, ASM evaluated Wormwood Canal again and concurred with the 1999 Caltrans finding of ineligibility. For the purposes of this evaluation, Dudek evaluated a segment of the Wormwood Lateral 1.

Photo 4.7-3. DS-I-3 – Overview of canal and gate 12 looking northeast, 11/20/17.

Despite the clear association with irrigation history and agricultural development history in Imperial County, a single segment of a larger canal does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Canals, like many other types of linear features, have significance because they are parts of a larger and oftentimes complex system. Therefore, the significance of the canal is not tied to a specific segment, but to the canal as a whole. For this reason, many linear features are listed on the NRHP as historic districts with contributing and non-contributing segments and related infrastructure. Canal segments can have individual eligibility when associated with a particular farmstead or show a significant engineering or architectural feature. However, archival research did not identify any significant associations and this segment does not display any innovative architectural or engineering features that set it apart from other canal segments in the area. This canal segment further lacks the required significance for individual eligibility, as it is representative of a ubiquitous irrigation structure seen throughout the Imperial Valley. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen canal, while associated with the Wormwood Canal is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, as it is part of a vast network of drainage canals of a similar type throughout the Imperial Valley. This resource represents a small segment of a much larger canal, and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. Therefore, DS-I-3 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-3 is recommended not eligible under NRHP/CRHR Criterion D/4. While DS-I-3 retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association it has no important historical associations and lacks architectural merit. As such, DS-I-3 is recommended not eligible under all NRHP and CRHR designation criteria.

DS-I-4

Located on APN 052-170-037, this resource consists of a historic age irrigation canal. The canal is bound by fallow agricultural fields to the north and south. The southern portion of the canal ends at Woodbine Lateral 7 Canal, adjacent to Pulliam Road to the east. The canal is concrete lined and aligns east to west. It is approximately eight feet wide by four feet in depth. The entire canal is approximately one half-mile long and connects to Woodbine Lateral 7 Canal to the east at Gate 42. Small metal gates (measuring approximately 12 inches) are located along the northern portion of the canal in 50-foot intervals. These gates appear to feed water to the field located to the north of the canal. No date stamp was observed during the survey. The canal is in good condition and is likely maintained regularly (see **Photo 4.7-4**).

Photo 4.7-4. DS-I-4 – Overview of canal looking east, 11/20/17.

Evaluation of the DS-I-4 under NRHP/CRHR criteria included archival research. The date of construction for the concrete irrigation canal was not found during archival research, but a review of historic aerial photographs indicates that the canal was not present in 1953 (Dudek 2018b, p. 27). Given the use of concrete lining in this segment and the popularity of lining canals with concrete in the 1950s and 1960s throughout Imperial County suggests this date is likely accurate. No previous recordings or evaluations of this canal segment were found during the course of archival research. For the purposes of this evaluation, Dudek evaluated the canal segment that terminates at the Woodbine Lateral 7 Canal. Despite the association with irrigation history and agricultural development history in Imperial County, the lack of clear association with larger canals in the area suggests that this was a canal used by a single property owner for agricultural purposes and not part of a larger and more complex infrastructure thus it does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The concrete lined lateral canal segment is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. Therefore, DS-I-4 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-4 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the concrete lateral canal segment retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association it has no important historical associations and lacks architectural merit. As such, DS-I-4 is recommended not eligible under all NRHP and CRHR designation criteria.

P-13-013073 (Woodbine Canal Segment)

Located on APN 052-170-031, this resource consists of a historic age irrigation canal. The resource aligns parallel and south of Kubler Road. The western end of the canal is located at the intersection of Drew and Kubler Roads. The canal is concrete lined and aligns east to west. The canal is approximately ten feet wide by five feet in depth. The entire canal is approximately one half-mile long. A concrete gate (Gate 57) is located at the east end of the canal. The gate has a date stamp of 1959. This canal segment connects to the Woodbine Canal at Gate 57 to the north. The canal is in good condition and is likely maintained regularly (see **Photo 4.7-5**).

Photo 4.7-5. P-13-013073 – Overview of concrete lined canal looking east, 11/21/17.

Two portions of the western portion of the Woodbine irrigation canal were recorded during survey of agricultural property (for a proposed solar project). The east-west aligned one-half mile long western-most segment parallels the north side of Kubler Road on the southern border of Section 5, east of Drew Road. Another one-half mile east-west aligned portion was recorded starting one-half mile to the east and ending at the (former) Mt. Signal School property southwest corner. The north-south oriented segment aligns from the intersection of Kubler Road and Brockman Road (southwest corner) down the west side of Brockman Road for just a little over one mile (due to eastward „bulge" in section line). At SR 98, the canal heads east paralleling the north side of the highway. A one mile east-west segment between Brockman Road and Rockwood Road was recorded during this survey, but the canal continues eastward for over seven miles to Anza Road. The Woodbine Canal is shown on the 1915 El Centro 15" USGS quad. map, however, the canal channel was lined with concrete at a later date, sometime in the late 1950s/early1960s. There is a "1957" date stamp on a small elevation drop at the northwestern corner of Brockman Road and SR 98, and two gates along the north-south segment have "1979" date stamps. The segment of the canal between the two 1979 dated gates has concrete of a different appearance indicating an even more recent replacement. The segment of the canal is roughly 13 feet across at the top, but depth is unknown because the canal was full of water. Features associated with the canal include a small elevation drop, a gate opening to Woodbine Lateral 7 (a gate along the canal itself) and the Brockman Road undercrossing. The canal segments appear to be well-maintained and the integrity of the features is good (Dudek 2018b, p. 29).

Evaluation of P-13-013073 under NRHP/CRHR criteria included archival research and review of previous evaluations of this segment of the Woodbine Canal and the surrounding area. Constructed circa 1915, the Woodbine Canal was one of the early canals in the Imperial County. While it would have originally been an earthen canal, it was lined with concrete at some point during the 1950s and 1960s based on date stamps noted in previous recordings of sections of the canal.

In 2010, Andrew Pigniolo of Laguna Mountain Environmental recorded this segment of the Woodbine Canal and determined that it was one of the earliest irrigation canals in the Imperial Valley based on its appearance on the 1915 El Centro 15- minute USGS topographic quad map. In 2011, ASM evaluated this segment of the canal again found the canal was not recommended eligible for the NRHP or the CRHR due to alterations that included concrete lining of the canal in the 1950s-1960s. For the purposes of

this evaluation, Dudek evaluated the segment of the Woodbine Canal that aligns along the northern boundary of the project area. Despite the clear association with irrigation history and agricultural development history in Imperial County, a single segment of a larger canal does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Canals, like many other types of linear features, have significance because they are parts of a larger and oftentimes complex system. Therefore, the significance of the canal is not tied to a specific segment, but to the canal as a whole. For this reason, many linear features are listed on the NRHP as historic districts with contributing and non-contributing segments and related infrastructure. Canal segments can have individual eligibility when associated with a particular farmstead or show a significant engineering or architectural feature. However, archival research did not identify any significant associations and this segment does not display any innovative architectural or engineering features that set it apart from other canal segments in the area. This canal segment further lacks the required significance for individual eligibility, as it is representative of a ubiquitous irrigation structure seen throughout the Imperial Valley. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The concrete lined drainage ditch, while associated with the Woodbine Canal is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, as it is part of a vast network of drainage canals of a similar type throughout the Imperial Valley. This resource represents a small segment of a much larger canal, and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. The canal segment has been altered from its original materials and any evidence of original craftsmanship or artistic value would have been lost during the alterations. Therefore, P-13-013073 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, P-13-013073 is recommended not eligible under NRHP/CRHP Criterion D/4. Furthermore, it lacks the requisite integrity of materials, design and craftsmanship to be considered eligible due to significant alterations including concrete lining of the canal. As such, the segment of P-13-013073 is recommended not eligible under all NRHP and CRHR designation criteria.

P-13-013079 (Mt. Signal Drain Segment)

This resource consists of a segment of the Mount Signal Drain and Mount Signal Drain 1. The segment is located on APN 052-170-032 and between APNs 052-170-031, 052-170-056, 052-170-037, 052-170-056, and north of 052-170-039. The drain starts from the north from Kubler Road and aligns south. The western portion of the drain crosses Drew Road and ends at Mandrapa Road. The southern drain ends at SR-98. Mount Signal Drain is earthen and aligns north to south. Mount Signal Drain 1 aligns east to west from the Mount Signal Drain. The drainage is approximately eight feet wide by ten feet in depth. The drain is approximately two miles in length. The drain is in good condition and is likely maintained regularly (see **Photo 4.7-6**).

Photo 4.7-6. P-13-013079 – Overview of drain looking west, 11/21/17.

The Mt. Signal Drain is shown on the USGS quad. map to meander for nearly four miles beginning south of SR 98 (at -6 feet elev.) and emptying into Greeson Wash about 0.6 mile south of Lyons Road (at -45 feet elev.). Only two portions of this earthen irrigation drainage channel occur within the current survey area of agricultural property (for a proposed solar project). The northern portion has a northeasterly-aligned 2,500 feet segment, starting at Fisher Road on the border between sections 4 & 5 (along the eastern boundary of parcel 052-170-052) that is nearly 65 feet across -- from bank to bank. An east-west segment just south of Fisher Road (immediately west of Pulliam Road) is approximately 1,190 feet long and varies from 60-75 feet across. The channel turns south at the boundary between parcels 052-170-019 & 052-170-018 where it narrows to about 55 feet across. This segment extends approximately 2,390 feet north/south (within the project area) to Kubler Road. The drain continues to the south outside the project area. The southern portion within the project area begins south of SR 98 (between Drew and Pulliam roads) and extends along the east side of APN 052-190-007 to its southern end. At this point (outside the project area) the channel turns southeast before heading eastward. No historic-age features were observed within these portions of the drain, but it is part of the larger historic-age agricultural system. The drain appears to retain good integrity and is probably maintained by regular clearing with a backhoe (Dudek 2018b, p. 31).

Evaluation of P-13-013079 under NRHP/CRHR criteria included archival research and review of previous evaluations of this segment of the Mt. Signal Drain Segment and the surrounding area. A date of construction for the Mt. Signal Drain was not found during archival research. In 2010, Andrew Pigniolo of Laguna Mountain Environmental recorded this segment of the Mt. Signal Drain and noted no historic features and made no determination of eligibility under NRHP/CRHR. For the purposes of this evaluation, Dudek evaluated a segment of the Mt. Signal Drain. Despite the clear association with irrigation history and agricultural development history in Imperial County, a single segment of a larger irrigation drainage channel does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Canals and drainages, like many other types of linear features, have significance because they are part of a larger and oftentimes complex system. Therefore, the significance of the drain is not tied to a specific segment, but to the drainage as a whole. For this reason, many linear features are listed on the NRHP as historic districts with contributing and non-contributing segments and related infrastructure. Drain segments can have individual eligibility when associated with a particular farmstead or show a significant engineering or architectural feature. However, archival research did not identify any significant associations and this segment does not display any innovative architectural or engineering features that set it apart from other drain segments in the area. This drain segment further lacks the required significance for individual eligibility, as it is representative of a ubiquitous irrigation structure seen throughout the Imperial Valley. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen drainage channel is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, as it is part of a vast network of drainage channels of a similar type throughout the Imperial Valley. Therefore, P-13-013079 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, P-13-013079 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the earthen drainage channel retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association; the earthen drainage channel has no important historical associations and lacks architectural merit. As such, the segment of P-13-013079 is recommended not eligible under all NRHP and CRHR designation criteria.

P-13-013074 (Woodbine Lateral 7)

Located on APN 052-170-032 and 052-170-037, this resource consists of a segment of the Woodbine Lateral 7 irrigation canal. The canal aligns parallel to the west of Pulliam Road. The canal is concrete lined and aligns north to south. It is approximately ten feet wide by five feet in depth. The entire canal is approximately one-mile long. The segment connects to another canal that aligns west to east at Gate 42. No date stamps were observed during the survey. The canal is in good condition and is likely maintained regularly (see **Photo 4.7-7**).

Photo 4.7-7. P-13-013079 – Overview of drain looking west, 11/21/17.

The Woodbine Lateral 7 irrigation canal was recorded during survey of agricultural property (for a proposed solar project). The east-west aligned one-mile long lateral (extending from the main Woodbine Canal to the east) is situated on the north side of SR 98 along the southern border of Section 9, between Pulliam Road on the west and Brockman Road at the east. The canal continues to the north for one-half mile but in the next parcel to the west, outside of the current survey boundary.

This canal system was lined with concrete sometime in the late 1950s/early1960s. There is a "1957" date stamp in the concrete of a flow gate at the northeastern corner of Pulliam Road and SR 98; a second gate to the east appears contemporaneous but is unmarked. A "1979" date stamp is present where the lateral connects to the main Woodbine Canal to the east. The canal is roughly 11.5 feet across at the top. Depth is unknown since the canal was full of water. The integrity of the canal is good in spite of the earthquake activity that has been occurring in the area (Dudek 2018b, p. 33).

Evaluation of the P-13-013074 under NRHP/CRHR criteria included archival research and review of previous evaluations of this segment of the Woodbine Lateral 7 Canal and the surrounding area. Constructed circa 1915, the Woodbine Canal was one of the early canals in the Imperial County. While the Woodbine Canal was constructed circa 1915, construction of the Woodbine Lateral segments took place later in the development period of the Woodbine Canal. Date stamps on Woodbine Lateral & Canal indicate a possible date of construction or concrete lining of the canal in 1957. Given the use of concrete lining in this segment and the popularity of lining canals with concrete in the 1950s and 1960s throughout Imperial County suggests this date would be feasible. In 2010, Andrew Pigniolo of Laguna Mountain Environmental recorded this segment of the Woodbine Lateral 7 Canal and determined there were no historic resources present. For the purposes of this evaluation, Dudek evaluated a segment of the Woodbine Lateral 7 Canal. Despite the clear association with irrigation history and agricultural development history in Imperial County, a single segment of a larger canal does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Canals, like many other types of linear features, have significance because they are parts of a larger and oftentimes complex system. Therefore, the significance of the canal is not tied to a specific segment, but to the canal as a whole. For this reason, many linear features are listed on the NRHP as historic districts with contributing and non-contributing segments and related infrastructure. Canal segments can have individual eligibility when associated with a particular farmstead or show a significant engineering or architectural feature. However, archival research did not identify any significant associations and this segment does not display

any innovative architectural or engineering features that set it apart from other canal segments in the area. This canal segment further lacks the required significance for individual eligibility, as it is representative of a ubiquitous irrigation structure seen throughout the Imperial Valley. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The concrete lined lateral canal segment, while associated with the Woodbine Canal is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, as it is part of a vast network of drainage canals of a similar type throughout the Imperial Valley. Therefore, P-13-013074 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, P-13-013074 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the concrete lateral canal segment retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association it has no important historical associations and lacks architectural merit. As such, the segment of P-13-013074 is recommended not eligible under all NRHP and CRHR designation criteria.

DS-I-8 Carr Drain

Located between APN 052-170-032 (north) and APN 052-170-037 (south), this resource consists of a historic age earthen irrigation drain. The drain is located west of Pulliam Road and aligns east to west. The drain is approximately ten feet wide by five feet in depth. The entire drain is approximately 0.25-miles long (see **Photo 4.7-8**).

Photo 4.7-8. DS-I-8– Overview of drain looking east, 2/22/18.

Evaluation of the DS-I-8 under NRHP/CRHR criteria included archival research. The date of construction for the earthen irrigation drain was not found during archival research, but a review of historic aerial photographs indicates that the channel was present in 1953 (Dudek 2018b, p. 35). No previous recordings or evaluations of this drain segment were found during the course of archival research. During the course of research, the IID plat book sheet 32 from 2011 identified the drain as the Carr Drain. Despite the association with irrigation history and agricultural development history in Imperial County, the lack of clear association with larger canals in the area suggests that this was a drain used by a single property owner for agricultural purposes and not part of a larger and more complex infrastructure thus it does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen drain segment is not representative of a specific and significant infrastructure or architectural style. There is no evidence to suggest that it was constructed or

conceived by an important creative individual, and it represents a ubiquitous piece of infrastructure seen throughout Imperial Valley. Therefore, DS- I-8 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-8 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the earthen drain retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association it has no important historical associations and lacks architectural merit. As such, the segment of DS-I-8 is recommended not eligible under all NRHP and CRHR designation criteria.

DS-I-9 (Mt. Signal Drain No. 1-B)

Located between Assessor's Parcel No. 052-170-030 (west) and 052-170-031 (east), this resource consists of a historic age earthen irrigation drain. The drain is located west of Drew Road. It is earthen and aligns east to west; with the western end curving and continuing towards the south. The drain is approximately ten feet wide and five feet in depth. The drain is approximately ten feet wide and five feet in depth. The entire drain is approximately 0.70-miles long (see **Photo 4.7-9**).

Photo 4.7-9. DS-I-9– Overview of drain looking north, 2/22/18.

Evaluation of the DS-I-9 under NRHP/CRHR criteria included archival research. The date of construction for the earthen irrigation drain was not found during archival research, but a review of historic aerial photographs indicates that the drain was present in 1953 (Dudek 2018b, p. 37). No previous recordings or evaluations of this canal segment were found during the course of archival research. During the course of research, the IID plat book sheet 32 from 2011 identified the canal as the Mt. Signal Drain No. 1-B. Despite the clear association with irrigation history and agricultural development history in Imperial County, a single segment of a larger irrigation drainage channel does not rise to the level of significance required for either the NRHP or the CRHR under Criterion A/1. Canals and drainages, like many other types of linear features, have significance because they are parts of a larger and oftentimes complex system. Therefore, the significance of the drain is not tied to a specific segment, but to the drainage as a whole. For this reason, many linear features are listed on the NRHP as historic districts with contributing and non- contributing segments and related infrastructure. Drain segments can have individual eligibility when associated with a particular farmstead or show a significant engineering or architectural feature. However, archival research did not identify any significant associations and this segment does not display any innovative architectural or engineering features that set it apart from other canal segments in the area. This drain segment further lacks the required significance for individual eligibility, as it is representative of a ubiquitous irrigation structure seen throughout the Imperial Valley. Archival research also failed to establish any associations to significant persons important on the local, state, or national level, thus making it not eligible under Criterion B/2.

The subject property does not embody the distinctive characteristics of a type, period, region, or method of construction. The earthen drainage channel is not representative of a specific and significant

infrastructure or architectural style. There is no evidence to suggest that it was constructed or conceived by an important creative individual, as it is part of a vast network of drainage canals of a similar type throughout the Imperial Valley. Therefore, DS-I-9 does not appear eligible under NRHP/CRHR Criteria C/3. There is no evidence to suggest that this property has the potential to yield information important to state or local history, nor is it associated with a known archaeological resource. Therefore, DS-I-9 is recommended not eligible under NRHP/CRHP Criterion D/4. Although the earthen drainage channel retains the requisite integrity of location, design, setting, materials, workmanship, feeling, and association; the earthen drainage channel has no important historical associations and lacks architectural merit. As such, DS-I-9 is recommended not eligible under all NRHP and CRHR designation criteria.

Tribal Cultural Resources

The environmental setting for Tribal Cultural Resources includes a site, feature, place, cultural landscape, sacred place, and object with cultural value the tribes that were consulted. None of the fifteen tribes contacted (see list under 4.7.3 item B. "Methodology", Tribal Cultural Resources, below) identified any such resources. One Tribe (the Campo Band of Mission Indians) requested that tribal monitors be present for surveys and ground disturbing activities to ensure cultural resources are not overlooked (refer to Mitigation Measure MM 4.7.2a).

4.7.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

Cultural Resources

The impact analysis provided below is based on CEQA Guidelines, Appendix G. The Project would result in a significant impact to cultural resources if it would result in any of the following:

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.

c) Disturb any human remains, including those interred outside of formal cemeteries.

Impacts to a CEQA-defined Historical Resource are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(b)]. CEQA-defined Historical Resources include resources that are eligible for the NRHP or the CRHR [CCR Title 14, Section 15064.5(a)]. Such resources can be buildings, structures, and facilities from the historic period and prehistoric and historic archaeological sites. Demolition or alteration of eligible buildings, structures, and features to the extent that they would no longer be eligible would result in a significant impact. Whole or partial destruction of eligible archaeological sites would result in a significant impact. In addition, significant impacts could occur as a result of: destruction or physical alteration of an eligible resource and impacts to the integrity of setting (sometimes termed "visual impacts") of eligible buildings and above-ground structures or facilities.

Tribal Cultural Resources

The Project would result in a significant impact to tribal cultural resources if it would result in any of the following:

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision I of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

B. METHODOLOGY

Cultural Resources

South Coastal Information Center Records Search

An examination of existing maps, records, and reports was conducted by Dudek to determine if the Drew Solar Project could potentially impact previously recorded cultural resources. Dudek conducted a Records Search in November 2017 at the SCIC at San Diego State University. The search encompassed the APE and a 1-mile buffer around the APE. The purpose of the Records Search is to identify any previously recorded resources that may be located in or adjacent to the Project Area and to identify previous studies in the project vicinity. In addition to a review of previously prepared site records and reports, the Records Search also reviewed historical maps of the Project Area, ethnographies, the NRHP, the CRHR, the California Historic Property Data File, and the lists of California State Historical Landmarks, California Points of Historical Interest, and Archaeological Determinations of Eligibility.

Historic Archival Research

Historic Aerial Photographs

Historic aerial photographs (years available: 1953, 1996, 2002, 2005, 2009, 2010, and 2012) reveal that the Project Area has been utilized for agricultural development since 1953. The irrigation canals located within the Project Site date to at least 1953. The photographs reveal that the canal locations have not changed since 1953. No other historic age structures are located within the project area in the photos.

Imperial Irrigation District Archival Research

The IID maintains a webpage of previously prepared historic content related to the broad scale water distribution and irrigations systems attributed to the development of Imperial Valley. These documents were used in preparation of the historic context provided in this report, and include:

- A Century of Service: Imperial Irrigation District
- IID: The First 40 Years
- IID Water History

Of particular relevance to the current project was Dowd's 1956 manuscript, which details the historic development of the IID and subsequent rise of the City of Imperial. This manuscript was used as a baseline source for development of the historic context.

Dudek also contacted with Sherry L. O'Malley, Water Vault – Procurator and Water Engineer at the IID on January 3, 2018 to inquire about original dates of construction for all irrigation components within the project area. Ms. O'Malley responded on January 8, 2018 and stated she would research the archives for drawings. This report will be updated upon receipt of any consequential information from the IID water vault archives.

Survey

Dudek archaeologists conducted an intensive- level pedestrian survey of the Project APE from November 20 to November 22, 2017 using standard archaeological procedures and techniques (**Figure 4.7-1**). All field practices met the Secretary of Interior's standards and guidelines for a Cultural Resources Inventory (Dudek 2018a, p. 23). The intensive-level survey methods consisted of a pedestrian survey conducted in parallel transects spaced no more than 15 meters (approximately 49'1") apart over the entire Project APE.

Tribal Cultural Resources

AB 52 requires that each group that has requested consultation be contacted by letter to provide them with information about the Drew Solar Project and ask if they wish to consult with the agency.

On May 7, 2018, the County of Imperial sent letters requesting consultation to the following tribes:

- Augustine Band of Cahuilla Mission Indians
- Campo Band of Mission Indians
- Chemehuevi Reservation
- Cocopah Indian Tribe
- Colorado River Indian Tribe
- Ewiiaapaayp Tribal Office
- Fort Yuma Quechan Indian Tribe
- Inter-Tribal Cultural Resource Protection Council
- Kumeyaay Cultural Repatriation Committee
- La Posta Band of Mission Indians
- Manzanita Band of Kuymeyaay Nation
- Torrez-Martinez Desert Cahuilla Indians
- Torres Martinez Indian Tribe
- Native American Heritage Commission
- Kwaaymiii Laguna Band of Mission Indians

The County received a letter from the Campo Band of Mission Indians dated May 20, 2018 requesting consultation under AB 52. The County responded to the Campo Band of Mission Indians request for a meeting in a letter dated June 8, 2018. On June 14, 2018, County staff meet with Marcus Cuero from Campo Band of Mission Indians. The County discussed the various aspects of the project. Mr. Cuero indicated that the Tribe wanted to be a part of the monitoring during construction of the project as there was a village near the site (Robinson pers. comm., 2018). In a letter dated September 11, 2018 to the Planning Director, Jim Minnick, Ralph Goff, Chairman of the Campo Band of Mission Indians indicated that the Tribe wanted tribal monitors to be present for surveys and ground disturbing activities to ensure cultural resources are not overlooked (Goff pers. comm., 2018).

C. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

None of the criteria identified for Cultural Resources or Tribal Cultural Resources in Appendix G of the CEQA Guidelines, were scoped out as part of the Initial Study.

D. PROJECT IMPACTS AND MITIGATION MEASURES

Impacts to Historical Resources

Impact 4.7.1 All historic age irrigation canals and drainage resources within the Project APE are recommended not eligible for the NRHP and CRHR based on a lack of historical significance, and in some cases, a lack of integrity. Therefore, impacts to historical resources are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT/PHASED CUP SCENARIO

Construction

During the field survey, nine historic age (circa 1950s) irrigation canal/drainage segments were identified during the pedestrian survey of the Project APE. These include DS-I-1 (a historic age irrigation canal); DS-I-2 (earthen canal); DS-I-3 (concrete lined canal); DS-I-4 (concrete canal); DS-I-5 (concrete lined canal); DS-I-6 (earthen canal); DS-I-7 (concrete lined canal); DS-I-8 (earthen canal); and DS-I-9 (earthen canal). All of segment were recommended not eligible under all NRHP and CRHR designation criteria. Therefore, impacts to historical resources are considered **less than significant** during construction of both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

Once each CUP is operational, the historic age irrigation canal and drainage segment would not be disturbed. Therefore, **no impact** to historical resources would occur during operation of both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

At the time of decommissioning and reclamation, no new impacts to the historic age irrigation canal and drainage segments are anticipated as any removal, relocation or in-fill would have occurred during Project construction. However, none of the canals identified are considered eligible under the NRHP and CRHR. Therefore, impacts to historical resources are considered **less than significant** during decommissioning and reclamation of both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

None required

Significance After Mitigation

Not Applicable.

Impacts to Unanticipated Archaeological Resources

Impact 4.7.2 The proposed Solar Field Site Parcels have been farmed since the late 1930's and most are currently in agricultural production. No known archaeological resources were identified during the Records Search or pedestrian survey. However, the potential exists for unanticipated archaeological resources to be discovered during construction. This is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT/PHASED CUP SCENARIO

Construction

The Phase I cultural resources inventory of the Project APE suggests that there is a very low potential for the inadvertent discovery of intact cultural deposits during earth moving activities that will occur within agricultural fields (Dudek 2018a, p. 35). The fields have been extensively disturbed by decades of agricultural activities. Thus, any archaeology that was present would have been disturbed by continuous agricultural activities and would no longer remain intact. The Campo Band of Mission Indians responded to the request for consultation under AB 52 indicating that the area has a rich history for the Kumeyaay people. Therefore, the potential still exists for previously unanticipated archaeological resources to be discovered during construction of both the Full Build-out and Phased CUP Scenarios of the Project. This is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

During Project operation and maintenance, no additional impacts to unanticipated archaeological resources would be anticipated because the soil disturbance would have already occurred and been mitigated during construction. Therefore, a **less than significant impac**t to unanticipated archeological resources would occur during Project operation of both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning activities will consist of the removal of solar panels and related utility equipment. During the decommissioning phase of the Project, earth-moving activities similar to those occurring during Project construction would take place. However, the ground disturbance that will occur as a result of decommissioning/reclamation will be in the same locations of disturbance that occurred during Project construction of each CUP. As such, no further disturbance of unanticipated archaeological resources is expected to take place during decommissioning. As a result, impacts to archaeological resources are considered **less than significant** during decommissioning and dramatically reduced following reclamation under both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

MM 4.7.2a A monitor from the Campo Band of Mission Indians shall be present as a Native American monitor for initial ground disturbing activities within the boundaries of the Project site. Following initial disturbance, a determination shall be made by the County in accordance with State regulations if continued monitoring is necessary based on the outcome of any discoveries or lack thereof.

Timing/Implementation: *During initial ground disturbing activities/as needed.*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department/Campo Band of Mission Indians.*

MM 4.7.2b In the event that archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Project, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist meeting the Secretary of the Interior's Professional Qualification Standards can evaluate the significance of the find and determine whether or not additional study is warranted. If the discovery is clearly not significant (e.g., an isolate) the archaeologist may simply record the find and allow work to continue. If the discovery proves potentially

significant under CEQA, additional work such as preparation of an archaeological treatment plan, testing, or data recovery may be warranted.

Timing/Implementation: *During construction involving drilling or excavations to depths of 10 feet or more.*

Enforcement/Monitoring: *Archaeological Monitor and Imperial County Planning and Development Services Department.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.2 would halt work in the event that an archaeological discovery was made and bring in a qualified archaeologist to assess the find and direct the appropriate action. With implementation of mitigation measures MM 4.7.2a and MM 4.7.2b, impacts to unanticipated archaeological resources would be **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

Impacts to Previously Unknown Subsurface Human Remains

Impact 4.7.3 Though unlikely, previously unknown human remains may be present within the Project Site which could be unearthed during construction. This is considered a **potentially significant impact** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

There is a possibility that human remains could be present beneath the ground surface of the areas to be disturbed during construction of the various components of the Project. If present, such remains could be exposed during earth-moving and ground disturbing activities. Exposure or damage to subsurface human remains is considered a **potentially significant impact** during construction of both the Full Build-out Scenario and Phased CUP Scenario.

Operation

During operation of the Full Build-out Scenario and Phased CUP Scenario, no additional impacts to previously unknown subsurface human remains would be anticipated. Maintenance activities associated with Project operation would not involve the level of ground disturbing activities that occurred during construction. Therefore, **no impact** related to subsurface human remains would occur during operation of both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning activities will consist of the removal of solar panels and related utility equipment. The ground disturbance that will occur as a result of decommissioning will be in the same locations of disturbance that occurred during Project construction. As such, no further disturbance of potential human remains is expected to take place during decommissioning. Therefore, **no impact** related to subsurface human remains would occur during decommissioning or following reclamation of the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measure

MM 4.7.3 In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the County Coroner shall be notified of the discovery immediately. No further excavation or disturbance of the site or any nearby area reasonably

suspected to overlie adjacent remains shall occur until the County Coroner has determined, within 2 working days of notification of the discovery, the appropriate treatment and disposition of the human remains. If the County Coroner determines that the remains are, or are believed to be, Native American, he or she shall notify the NAHC in Sacramento within 24 hours. In accordance with California Public Resources Code Section 5097.98, the NAHC must immediately notify those persons it believes to be the MLD from the deceased Native American. The MLD shall complete inspection within 48 hours of being granted access to the site. The designated Native American representative would then determine, in consultation with the property owner, the disposition of the human remains.

Timing/Implementation: *During construction.*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department, Imperial County Coroner in coordination with NAHC.*

Significance After Mitigation

Implementation of mitigation measure MM 4.7.3 requires no further excavation or disturbance of the site or any nearby area in the event that human remains are discovered. The County Coroner and NAHC will be notified as appropriate. Following implementation of MM 4.7.3, potential construction impacts to unrecorded subsurface human remains would be **less than significant** for both the Full Build-out Scenario and Phased CUP Scenario.

Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Impact 4.7.4 Implementation of the proposed Project under both the Full Build-out Scenario and Phased CUP Scenario would not result in a substantial adverse change in the significance of a tribal cultural resource. No tribal cultural resources were identified as part of the AB 52 process. Therefore, impacts to tribal cultural resources would be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

As part of the AB 52 process, fifteen tribes were sent letters with the opportunity to consult. With the exception the Campo Band of Mission Indians, none of the tribes responded. As previously noted, County staff meet with Marcus Cuero from Campo Band of Mission Indians meet with the County on June 14, 2018 to discuss the Project with Tribal Representative, Marcus Cuero. Mr. Cuero indicated that a village was located near the site. Subsequent to the meeting, Ralph Goff, Chairman of the Campo Band of Mission Indians sent a letter (dated September 11, 2018) to Planning Director, Jim Minnick. In this letter, Mr. Goff requested that the Tribe have monitors present for surveys and ground disturbing activities to ensure cultural resources are not overlooked (Goff pers. comm., 2018). This request has been made a part of Mitigation Measure MM 4.5.2a. No other tribal cultural resources listed or eligible for listing in the California Register of Historical Resources, or a tribal cultural resource determined to be significant by the lead agency were identified. Therefore, impacts to tribal cultural resources would be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

Implement mitigation measure MM 4.7.2a

Significance After Mitigation

Not Applicable.

4.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope of the cumulative setting for cultural resources includes the proposed approved and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0. The Project area possesses the potential for significant cultural resources that, in many cases, have not been well documented or recorded. Thus, there is the potential for cumulative projects in Imperial County to disturb areas that may contain known or unknown cultural resources.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Historic and Archaeological Resources, Human Remains and Tribal Cultural Resources

Impact 4.7.5 Implementation of the proposed Project, in combination with proposed, approved, and reasonably foreseeable projects in the region identified in the cumulative setting, has the potential to result in impacts to historic and archaeological resources, human remains and tribal cultural resources. However, impacts to historic and archaeological resources, human remains and tribal cultural resources are addressed on a project-by-project basis through the CEQA process. Therefore, this is considered a **less than cumulatively considerable impact** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Cumulative development of the proposed, approved and reasonably foreseeable projects in the region identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, would result in the loss and/or degradation of archaeological resources, historic resources and tribal cultural resources. The potential disturbance of human remains would also increase. These cumulative effects of development on cultural resources would be addressed on a project-by-project basis. Project-specific mitigation measures would also reduce potential project impacts to unrecorded archaeological resources (MM 4.7.2a and MM 4.7.2b), human remains (MM 4.7.3) and tribal cultural resources (MM 4.7.2a) during construction of the proposed Project.

In addition, the potential exists for previously unrecorded subsurface archaeological resources and human remains to be located within the boundaries of the Project site and the cumulative projects listed in Table 3.0-1. Project-specific mitigation measures would also reduce potential project impacts to unrecorded archaeological resources (MM 4.7.2a and MM 4.7.2b), human remains (MM 4.7.3) and tribal cultural resources (MM 4.7.2a) during construction of the proposed Project.

Future projects in Imperial County with potentially significant impacts to archaeological resources, historical resources and tribal cultural resources would be required to comply with federal, state, and local regulations and ordinances protecting cultural resources and tribal 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 MM 4.7.2a, MM 4.7.2b and MM 4.7.3, both the proposed Full Build-out Scenario and Phased CUP Scenario would have a **less than cumulatively considerable contribution** to impacts to historic, archaeological and tribal cultural resources and human remains during Project construction for both the Full Build-out Scenario and the Phased CUP Scenario. Likewise, both the Full Build-out Scenario and

Phased CUP Scenario would result in a **less than cumulatively considerable impact** to historic, archaeological and tribal cultural resources and human remains during Project construction for both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

During Project operations, no additional cumulative impacts to historic, archaeological and tribal cultural resources and human remains would be anticipated because the soil disturbance would have already occurred and been mitigated during construction. Therefore, both the proposed Full Build-out Scenario and Phased CUP Scenario would have a **less than cumulatively considerable contribution** to impacts to historic and archaeological resources and human remains during Project operations for both the Full Build-out Scenario and the Phased CUP Scenario. Likewise, both the Full Build-out Scenario and the Phased CUP Scenario would result in **less than cumulatively considerable impacts** to historic, archaeological, and tribal cultural resources and human remains during Project operations or both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning activities will consist of the removal of solar panels and related utility equipment. Despite the amount of disturbance occurring during decommissioning activities, additional cumulative impacts to archeological, historical and tribal cultural resources or human remains are not anticipated because the ground disturbance that will occur as a result of decommissioning will be in the same locations of disturbance that occurred during construction. As such, no further disturbance of potential historic, archaeological and tribal cultural resources or human remains is expected to take place during decommissioning/reclamation. Therefore, **no cumulatively significant impact** related to fossil remains would occur during decommissioning/reclamation of either the Full Build-out Scenario or the Phased CUP Scenario.

Mitigation Measures

Implement mitigation measures MM 4.7.2a, MM 4.7.2b and MM 4.7.3.

Significance After Mitigation

Implementation of Project-specific mitigation measures MM 4.7.2a, MM 4.7.2b and MM 4.7.3 would address potential impacts to historic, archaeological and tribal cultural resources and human remains through construction monitoring, curation of resources, and proper handling of human remains if discovered. Therefore, following implementation of these mitigation measures, cumulative impacts associated with cultural resources would be **less than cumulative considerable** or both the Full Build-out Scenario and the Phased CUP Scenario.

SECTION 4.8

NOISE

This section defines technical terminology used in the analysis of noise; identifies federal, state and local regulations applicable to noise; and describes the environmental setting with regard to existing ambient noise levels. This section also analyzes potential noise impacts associated with construction, operation and decommissioning of the proposed Project. The information in this section is based on the *Noise Analysis for the Drew Solar Project, Imperial County, California* prepared by RECON (RECON 2018b). This document is provided on the attached CD of Technical Appendices as **Appendix G** of this EIR.

Noise is analyzed with regard to potential impacts resulting from implementation of the Full Build-out Scenario or the Phased CUP Scenario, as applicable. The discussion focuses on the proposed Project noise impacts during daytime construction over an 8-hour period at the nearest sensitive receptor (i.e. the nearest occupied farmhouse) because this approach represents the most conservative (i.e. worst-case) analysis for the proposed Project.

FUNDAMENTALS OF NOISE

Noise is defined as a loud or unpleasant sound that causes disturbance. Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

In technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone, the sound pressure level. Sound measurement instruments only measure sound pressure, and limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise.

Noise levels using A-weighted measurements are designated with the notation dB(A). Changes in noise levels are generally perceived by the average human ear as follows:

3 dB(A) is barely perceptible, 5 dB(A) is readily perceptible, and 10 dB(A) is perceived as a doubling or halving of noise (California Department of Transportation [Caltrans] 2013a).

NOISE DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. Consistent with the County's General Plan Noise Element, the noise descriptors used for this study are the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL). The L_{eq} is the equivalent steady-state noise level in a stated period of time that is calculated by averaging the sound energy over a time period; when no period is specified, a 1-hour period is assumed. The CNEL is a 24-hour equivalent sound level.

The CNEL calculation applies an additional 5 A-weighted decibels dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and a 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night.

NOISE PROPAGATION

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate (drop-off rate) of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance are simply the geometric spreading from the source, which equates to 6 dB(A) per doubling distance. A soft site (such as soft dirt, grass, or scattered bushes and trees) provides an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would drop off at 7.5 dB(A) per doubling of distance.

NOISE ATTENUATION

Noise attenuation refers to the decline in noise level that occurs in association with increased distance from the receptor. Sounds generated from a point source typically attenuate or decrease at a rate of 6 dBA for each doubling of distance. For example, a noise level of 87 dBA measured at a distance of 50 feet from the noise source would be reduced to 81 dBA at 100 feet from the source and be further reduced to 75 dBA at 200 feet from the source. When the noise source is a continuous line (e.g., vehicle traffic on a highway), the noise levels radiate in an almost oblique fashion from the source and drop off at a rate of 3 dBA for each doubling of distance under hard site conditions (e.g. concrete, asphalt and hard pack dirt) and at a rate of 4.5 dBA for soft site conditions (e.g. areas having slight grade changes, landscaped areas and vegetation). Barriers, obstructions, and weather conditions can all affect how noise travels.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to noise than others due to the types of persons or activities involved. The Imperial County General Plan Noise Element, Existing Conditions and Trends, number 4) "Other Sources", item "C" defines sensitive noise receptors, "in general, as areas of habitation where the intrusion of noise has the potential to adversely impact the occupancy, use, or enjoyment of the environment" (Imperial County 2015a, p. 12). Noise sensitive receptors include, but are not limited to, residences, schools, hospitals, parks, and office buildings. Noise sensitive receptors may also be non- human species; many riparian bird species are sensitive to excessive noise. The United States Fish and Wildlife Service establishes a noise level of 60 dBA Leq, above which nesting protected bird species would be disturbed and, therefore, impacted.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two noise sources do not sound twice as loud as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA (increase or decrease); that a change of 5 dBA is readily perceptible; and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud.

From the source to the receiver, noise changes both in level and frequency spectrum. The most obvious change is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on the following important factors: ground absorption, atmospheric effects and refraction, shielding by natural and man-made features, noise barriers, diffraction, and reflection. For a point or stationary noise source, such as construction equipment, the attenuation or drop-off in noise level would be at least -6 dBA for each doubling of unobstructed distance between source and the receiver and could attenuate to -7.5 dBA depending on the acoustic characteristics of the intervening ground. For a linear noise source, such as vehicles traveling on a roadway, the attenuation or drop-off in noise level would be approximately -3 dBA for each doubling of unobstructed distance between source and the receiver and could attenuate to -4.5 dBA depending on the acoustic characteristics of the intervening ground.

LOCALIZED NOISE

Sound from a small localized source (a "point" source) radiates uniformly outward as it travels away from the source. The sound level attenuates or drops-off at a rate of 6 dBA for each doubling of distance.

MOBILE NOISE

Because mobile/traffic noise levels are calculated on a logarithmic scale, a doubling of the traffic noise or acoustical energy results in a noise level increase of 3 dBA. Therefore, the doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of 3 dBA. Mobile noise levels radiate in an almost oblique fashion from the source and decrease at a rate of 3 dBA for each doubling of distance under hard site conditions and at a rate of 4.5 dBA for soft site conditions. In contrast, fixed or point sources radiate outward uniformly as it travels away from the source. Point source sound levels attenuate or decrease at a rate of 6 dBA for each doubling of distance.

CONSTRUCTION NOISE

Construction noise varies depending on construction activities and duration, type of equipment involved, proximity to sensitive receptors, and the duration of the construction activities. Construction equipment used on the site may be mobile (e.g., loaders, graders, dozers) or stationary (e.g., air compressor, generator, concrete saw). Heavy construction equipment typically operates for short periods at full power followed by extended periods of operation at lower power, idling, or powered-off conditions. Site preparation involves demolition, grading, compacting, and excavating and would include backhoes, bulldozers, loaders, excavation equipment (e.g., graders and scrapers), pile drivers, and compaction equipment. Finishing activities may include the use of pneumatic hand tools, scrapers, concrete trucks, vibrators, and haul trucks. **Table 4.8-1** summarizes typical noise sources and noise levels associated with construction activities.

TABLE 4.8-1
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Noise Level at 50 Feet [dB(A) Leq]	Typical Duty Cycle
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%

TABLE 4.8-1
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Noise Level at 50 Feet [dB(A) Leq]	Typical Duty Cycle
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%

Source: Federal Highway Administration 2006 in RECON 2018b.
dB(A) L_{eq} = weighted decibels equivalent noise level.

CORONA NOISE

When a transmission or sub-transmission line is in operation, an electric field is generated in the air surrounding the conductors forming a "corona." Corona results from the partial breakdown of the electrical insulating properties of the air surrounding the conductors. When the intensity of the electric field at the surface of the conductor exceeds the insulating strength of the surrounding air, a corona discharge occurs at the conductor surface, representing a small dissipation of heat and energy. Some of the energy may dissipate in the form of small local pressure changes that result in audible noise or in radio or television interference. Audible noise generated by corona discharge is characterized as a hissing or crackling sound that may be accompanied by a 120-Hz hum.

Slight irregularities or water droplets on the conductor and/or insulator surface accentuate the electric field strength near the conductor surface, thereby making corona discharge and the associated audible noise more likely. Under weather conditions such as rain and high wind, ambient noise levels would generally be higher than those generated by the transmission line operation and would mask the corona noise levels. Therefore, audible noise from transmission lines is generally a wet weather (wet conductor) phenomenon. However, during dry weather, insects and dust on the conductors can also serve as sources of corona discharge, and the associated audible noise more likely. Under weather conditions such as rain and high wind, ambient noise levels would generally be higher than those generated by the transmission line operation and would mask the corona noise levels. Therefore, audible noise from transmission lines is generally a foul weather (wet conductor) phenomenon. However, during fair weather, insects and dust on the conductors can also serve as sources of corona discharge.

The Electric Power Research Institute (EPRI) has conducted several studies of corona effects. **Table 4.8-2** summarizes typical noise levels for transmission lines with wet conductors.

TABLE 4.8-2
TRANSMISSION LINE VOLTAGE AND AUDIBLE NOISE LEVELS

Line Voltage (kV)	Audible Noise Level Directly Below the Conductor (dBA)
138	33.5
240	40.4
356	51.0

Sources: Imperial County 2014, p. 4.8-5.
Notes: kV = kilovolt

As shown in **Table 4.8-2**, corona noise levels decrease with lower voltage. Beyond 100 feet of the transmission line, the corona noise level attenuates at a rate of approximately 3 dB for each doubling of distance.

GROUND-BORNE NOISE AND VIBRATION

In addition to noise, construction activities generate vibration, which can be interpreted as energy transmitted in waves through the soil mass. These energy waves generally dissipate with distance from the vibration source, due to spreading of the energy and frictional losses. The energy transmitted through the ground as vibration, if great enough, can result in structural damage.

Typical outdoor sources of perceptible ground-borne vibration are construction equipment and traffic on rough (i.e., unpaved or uneven) roads. Construction activity can also result in varying degrees of ground-borne vibration, depending on the type of equipment, methods employed, distance between source and receptor, duration, number of perceived vibration events, and local geology.

Ground-borne vibrations from typical construction activities do not often reach levels that can damage structures in proximity to construction, but their effects may manifest and be noticeable in buildings that are within 25 feet of construction activities. One major concern with regard to construction vibration is potential building damage, which is assessed in terms of peak particle velocity (ppv), typically in units of inches per second (in/sec). In addition to structural damage, the vibration of room surfaces affects people as human annoyance.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events.

NOISE REDUCTION METHODS

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods could be required to reduce noise levels to an acceptable level.

4.8.1 REGULATORY FRAMEWORK

A. FEDERAL

The Noise Control Act of 1972 (P.L. 92-574)

The Noise Control Act and several other federal laws require the federal government to set and enforce uniform noise standards for aircraft and airports, interstate motor carriers and railroads, workplace activities, medium and heavy-duty trucks. Most federal noise standards focus on preventing hearing loss

by limiting exposure to sounds of 90 dBA and higher. However, some are stricter and focus on limiting exposure to quieter levels that are annoying to most individuals and can diminish one's quality of life.

Occupational Safety and Health Act of 1970

The Federal Occupational Safety and Health Administration (OSHA) regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 dBA over an 8-hour work shift (29 Code of Regulations [CFR] § 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices testing employees for hearing loss on a periodic basis.

B. STATE

California State Government Code

California does not promulgate statewide standards for environmental noise, but the California State Government Code section 65302 (f) requires each local jurisdiction to draft a Noise Element for its General Plan to establish acceptable noise limits for various land uses. The proposed Project is located within unincorporated Imperial County; the applicable construction noise regulations of the County are provided below.

California Code of Regulations Title 24 (California Building Code)

The California Code of Regulations also establishes noise insulation standards and a maximum interior noise level, with windows closed, of 45 dB CNEL, due to exterior sources (Title 24, §§ 3501 *et seq.*). This requirement is applicable to new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings.

California Department of Transportation

Caltrans' standards and methodologies used to determine when local land uses may be subject to unacceptable vibrations are based on the *Transportation and Construction Vibration Guidance Manual* (Caltrans 2013b). Maximum recommended vibration limits, set in units of inches per second as measured by the peak particle velocity (PPV), by the American Association of State Highway and Transportation Officials (AASHTO) are identified in **Table 4.8-3**.

TABLE 4.8-3
AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS

Structure	Peak Particle Velocity (inches/second)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2013b, Table 15, p. 25.

Based on AASHTO recommendations, limiting vibration levels to below 0.2 PPV at residential structures would prevent structural damage regardless of building construction type. These limits are applicable regardless of the persistence of the source. However, as shown in **Table 4.8-4** and **Table 4.8-5**, potential human response associated with vibration is typically dependent on the persistence (i.e. whether it is a steady or transient vibration source). These levels are summarized in **Table 4.8-4** and **Table 4.8-5**.

TABLE 4.8-4
HUMAN RESPONSE TO STEADY STATE VIBRATION

Peak Particle Velocity (inches/second)	Human Response
3.6 (at 2 Hertz)–0.4 (at 20 Hertz)	Very disturbing
0.7 (at 2 Hertz)–0.17 (at 20 Hertz)	Disturbing
0.10	Strongly perceptible
0.035	Distinctly perceptible
0.012	Slightly perceptible

Source: Caltrans 2013b, Table 4, p. 21.

As shown in **Table 4.8-5**, the vibration level threshold at which transient vibration sources (such as construction equipment) are considered to be distinctly perceptible is 0.24 PPV. Although groundborne vibration is sometimes noticeable in outdoor environments, groundborne vibration is almost never annoying to people who are outdoors due to the lack of a reference for the vibration, such as an object on a shelf. Therefore, the vibration level threshold for human perception is assessed at occupied structures (Federal Transit Administration 2006).

TABLE 4.8-5
HUMAN RESPONSE TO TRANSIENT VIBRATION

Peak Particle Velocity (inches/second)	Human Response
2.0	Severe
0.9	Strongly perceptible
0.24	Distinctly perceptible
0.035	Barely perceptible

Source: Caltrans 2013b, Table 6, p. 22.

C. LOCAL

County of Imperial General Plan

The Noise Element of the Imperial County General Plan (Imperial County 2015a) identifies and defines existing and future environmental noise levels from sources of noise within or adjacent to the County; establishes goals and objectives to address these impacts and provides implementation programs to implement these goals and objectives. **Table 4.8-6** summarizes the Project's consistency with the applicable General Plan noise policies. While this EIR analyzes the Project's consistency with the General Plan pursuant to State CEQA Guidelines section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.8-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
NOISE ELEMENT		
Noise Environment		
Goal 1 Provide an acceptable noise environment for existing and future residents in Imperial County.	Yes	A Noise Analysis (RECON 2018b) was prepared for the proposed Project which examined noise generated in association with Project construction, operation and decommissioning. Impacts associated with Project construction noise levels would comply with 75 dB(A) Leq(8h) noise level limit established by County Noise Element. Likewise, noise levels would not exceed applicable property line noise level limits from the County General Plan Noise Element. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and Phased CUP Scenario.
Objective 1.3 Control noise levels at the source where feasible.	Yes	Due to the large size of the Project site, average construction noise levels over the life of project construction (i.e. equal distribution of construction equipment noise across the site) would attenuate to 46 dB(A) Leq(8h) at the property line of the nearest residence. Operational noise would attenuate to 44 dB(A) Leq at the nearest single-family residence (a bee company operates out of this location) immediately west of the intersection of Drew Road and SR 98. Based on the size of the Project and attenuation, no noise control would be necessary for both the Full Build-out Scenario and Phased CUP Scenario.
Project/Land Use Planning		
Goal 2 Review proposed Projects for noise impacts and require design which will provide acceptable indoor and outdoor noise environments.	Yes	As noted under the analysis of Goal 1, above, a Noise Analysis (RECON 2018b) was prepared for the proposed Project. Noise levels during construction, operation and decommissioning would not exceed acceptable indoor or outdoor thresholds. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and Phased CUP Scenario.

TABLE 4.8-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

<table>
<tr><th>General Plan Policies</th><th>Consistent with General Plan?</th><th>Analysis</th></tr>
<tr><td>Objective 2.2 Provide acoustical analysis guidelines which minimize the burden on project proponents and project reviewers.</td><td>Yes</td><td>The Imperial County General Plan Noise Element includes noise standards by which projects are assessed. The proposed Project was analyzed using these standards and found to be below established noise thresholds with regard to the construction, operation and decommissioning. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and Phased CUP Scenario.</td></tr>
<tr><td colspan="3">Policies and Programs</td></tr>
<tr><td>1) Acoustical Analysis of Proposed Projects
The County shall require the analysis of proposed discretionary projects which may generate excessive noise or which may be impacted by existing excessive noise levels, including but not limited to the following:
• An analysis shall be required for any project which would be located, all or in part, in a Noise Impact Zone as specified above.
• An analysis shall be required for any project which has the potential to generate noise in excess of the Property Line Noise Limits stated in Table 9.
• An analysis shall be required for any project which, although not located in a Noise Impact Zone, has the potential to result in a significant increase in noise levels to sensitive receptors in the community.
• An acoustical analysis and report shall be prepared by a person deemed qualified by the Director of Planning. The report shall describe the existing noise environment, the proposed project, the projected noise</td><td>Yes</td><td>A Noise Impact Zone is an area that is likely to be exposed to significant noise. The County defines a Noise Impact Zone as an area that may be exposed to noise greater than 60 dB CNEL or 75 dB Leq. The purpose of the Noise Impact Zone is to define areas and properties where an acoustical analysis of a proposed project is required to demonstrate project compliance with land use compatibility requirements and other applicable environmental noise standards. Properties meeting at least one of the following criteria, shown below and in Table 8, are defined as being within a Noise Impact Zone if located within the Noise Impact Zone distances to classified roadways, as indicated in Table 8;
Table 8. Roadway Noise Impact Zones
<table>
<tr><th>Roadway Classification</th><th>Distance from Centerline (feet)</th></tr>
<tr><td>Interstate</td><td>1,500</td></tr>
<tr><td>State Highway or Prime Arterial</td><td>1,100</td></tr>
<tr><td>Major Arterial</td><td>750</td></tr>
<tr><td>Secondary Arterial</td><td>450</td></tr>
<tr><td>Collector Street</td><td>150</td></tr>
</table>
• Within 750 feet of the centerline of any railroad;
• Within 1,000 feet of the boundary of any railroad switching yard;
• Within the existing or projected 60 dB CNEL</td></tr>
</table>

TABLE 4.8-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
impact and, if required, the proposed mitigation to ensure conformance with applicable standards.		contour of any airport;[1] and/or • Within one-quarter mile (1,320 feet) of existing farmland, which is in an agricultural zone. The proposed Project includes parcels within a Noise Impact Zone and has the potential to generate an increase in noise. Therefore, a Noise Impact Analysis was prepared for the proposed Project consistent with this policy/program for both the Full Build-out Scenario and Phased CUP Scenario.
2) Noise/Land Use Compatibility. Where acoustical analysis of a proposed project is required, the County shall identify and evaluate potential noise/land use conflicts that could result from the implementation of the project. Projects which result in noise levels that exceed the "Normally Acceptable" criteria of the Noise/Land Use Compatibility Guidelines, Table 7, shall include mitigation measures to eliminate or reduce to an acceptable level the adverse noise impacts.	Yes	Land use compatibility defines the acceptability of a land use in a specified noise environment. **Figure 4.8-1** provides the County's Noise/Land Use Compatibility Guidelines. When an acoustical analysis is performed, conformance of a proposed project with the Noise/Land Use Compatibility Guidelines is used to evaluate potential noise impacts and provide criteria for environmental impact findings and conditions for project approval. The County Noise/Land Use Compatibility Guidelines (**Figure 4.8-1**) identify noise levels of up to 70 dBA CNEL as "normally acceptable" in areas designated for agricultural land uses. The Noise Analysis indicated that the proposed Project would not exceed to 70 dBA CNEL. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and Phased CUP Scenario.

[1] As shown in the Imperial County Airport Land Use Compatibility Plan (ALUCP) or an approved airport master plan, which supersedes the ALUCP. Note, however, that a land use compatibility analysis, which may include an acoustical analysis, is required for projects proposed within the "airport vicinity" of each airport, as defined on the Compatibility Maps shown in the ALUCP. This may encompass a much larger area than the 60 dB CNEL contour.

TABLE 4.8-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Policies	Consistent with General Plan?	Analysis
5) New Noise Generating Projects. The County shall identify and evaluate projects which have the potential to generate noise in excess of the Property Line Noise Limits. An acoustical analysis must be submitted which demonstrates the project's compliance.	Yes	Construction and decommissioning would cause short-term increases in noise on and in the vicinity of the solar field site parcels/CUPs. Likewise, noise would be generated during Project operation. The Noise Analysis revealed that construction, operation and decommissioning activities would not exceed Property Line Noise Limits. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and Phased CUP Scenario.
6) Project Which Generate Off-site Traffic Noise. The acoustical analysis shall identify and evaluate projects which will generate traffic and increase noise levels on off-site roadways. If the Project site has the potential to cause a significant noise impact to sensitive receptors along those roadways, the acoustical analysis report shall consider noise reduction measures to reduce the impact to a level less than significant.	Yes	Construction, operation and decommissioning off-site traffic noise would generate a negligible noise increase. As such the proposed Project does not have the potential to cause a significant noise impact to sensitive receptors along the roadways. Operational vehicle trip noise impacts to sensitive receptor would be well below the limit of 10 dBA for a substantial permanent ambient noise increase due to off-site traffic. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and Phased CUP Scenario.

Construction Noise Standards

Imperial County General Plan Noise Element Section IV.C.3 addresses noise generated by construction activities. It states:

- Construction noise, from a single piece of equipment or a combination of equipment, shall not exceed 75 dB L_{eq}, when averaged over an eight (8) hour period, and measured at the nearest sensitive receptor. This standard assumes a construction period, relative to an individual sensitive receptor of days or weeks. In cases of extended length construction times, the standard may be tightened so as not to exceed 75 dB L_{eq} when averaged over a one (1) hour period.
- 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 commercial construction operations are permitted on Sunday or holidays.

Operational Standards

Property Line Noise Level Limits

The County General Plan Noise Element identifies property line noise level limits that apply to noise generation from one property to an adjacent property (excluding construction noise). As stated in the Noise Element, the property line noise level limits imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. The property line noise standards are codified in the County Code or Ordinances.

County Ordinance, Title 9, Division 7 states that it is unlawful for any person to make or cause any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the individual's property, exceeds the applicable limits shown in **Table 4.8-7**.

TABLE 4.8-7
PROPERTY LINE NOISE LEVEL LIMITS

Zone	Time	Applicable Limit One-hour Average Sound Level
Residential Zones (all R-1)	7 a.m. to 10 p.m.	50 dB
	10 p.m. to 7 a.m.	45 dB
Multi-residential Zones (all R-2)	7 a.m. to 10 p.m.	55 dB
	10 p.m. to 7 a.m.	50 dB
Commercial Zones	7 a.m. to 10 p.m.	60 dB
	10 p.m. to 7 a.m.	55 dB
Light Industrial/Industrial Park Zones	Anytime	70 dB
General Industrial Zones	Anytime	75 dB
When the noise-generating property and the receiving property have different uses, the more restrictive standard shall apply. When the ambient noise level is equal to or exceeds the Property Line noise standard, the increase of the existing or proposed noise shall not exceed 3 dB L_{eq}. The sound level limit between two zoning districts (different land uses) shall be measured at the property line between the properties. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of subsection A of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located. This section does not apply to noise generated by helicopters at heliports or helistops authorized by a conditional use permit. This section does not apply to noise generated by standard agricultural field operating practices such as planting and harvesting of crops. The County of Imperial has a Right to Farm Ordinance (1031) which serves as recognition to agricultural practices to new development. Agricultural/industrial operations shall comply with the noise levels prescribed under the general industrial zones.		

Source: Imperial County 1993.
Notes: The sound level limit between two zoning districts (different land uses) shall be measured at the property line between the properties. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits above, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

The limits shown in **Table 4.8-7** imply the existence of a sensitive receptor on the adjacent, or receiving, property. In the absence of a sensitive receptor, an exception or variance to the standards may be appropriate. These standards do not apply to construction noise and are intended to be enforced through the County's code enforcement program on the basis of complaints received from persons impacted by excessive noise. It is important to note that a noise nuisance may occur even though an objective measurement with a sound level meter is not available. In such cases, the County may act to restrict disturbing, excessive, or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in an area.

The solar farm site parcels and immediate properties are currently designated "Agriculture" use by the Imperial County Land Use Plan (Imperial County 2007). Likewise, the solar field site parcels and surrounding properties are zoned A-3 (Agricultural, Heavy), A-2-R (General Agricultural Rural Zone), and

A-2 (Agricultural, General). Because none of the parcels are zoned for Agricultural-Industrial Use AM-1 or AM-Z, the Noise Ordinance does not prescribe a property line noise level limit on Project operations per **Table 4.8-7**. Conversion of the solar field site parcels from agricultural to solar generation facility does not change the land use zone; therefore, there is no operational noise level limit at the property line.

It should also be noted that the property line noise limits shown in **Table 4.8-8** do not apply to construction activities. The Noise Ordinance does not set new limitations on construction; rather, its mechanisms can be used to enforce the construction noise level limits and the time of day/day of week limitations set by the County Noise Element.

Imperial County Noise Abatement and Control

Imperial County Code of Ordinances Title 9, Division 7: Noise Abatement and Control, specifies noise level limits. Noise level limits are summarized in **Table 4.8-8**. Noise level limits do not apply to construction equipment.

TABLE 4.8-8
IMPERIAL COUNTY PROPERTY LINE NOISE LIMITS

Zone	Time	One-Hour Average Sound Level [dB(A) Leq]
Low-Density Residential Zones	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
Medium to High-Density-Residential Zones	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
Commercial Zones	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
Manufacturing/Light Industrial/Industrial Park Zones including agriculture	(anytime)	70
General Industrial Zones	(anytime)	75

Source: Imperial County Noise Abatement and Control Ordinance, Tit. 9, Div. 7, § 90702.00(A).
dB(A) Leq = weighted decibels equivalent noise level.

Guidelines for the Determination of Significance

To be conservative, the most restrictive applicable sound limits identified in Section 90702.00 of the Noise Ordinance were used in this analysis to accommodate not only the existing residential uses but also potential future residential uses that could be adjacent to the proposed CUPs. Section 90702.00 of the Noise Ordinance, which is used as the limit for CUPs, sets a residential sound level limit of 50 dBA Leq for daytime hours from 7 a.m. to 10 p.m. and 45 dBA Leq during the noise sensitive nighttime hours from 10 p.m. to 7 a.m. Most of the proposed Project components would operate only during the daytime hours. However, work at night may be performed occasionally on limited areas of the CUPs. Therefore, to be conservative the most restrictive nighttime standard of 45 dBA Leq is applied at the boundary of the CUPs.

4.8.2 ENVIRONMENTAL SETTING

The Project site is located in the unincorporated Mount Signal area. All parcels in the vicinity of the Project site are zoned General Agricultural (A-2), General Agricultural/Rural Zone (A-2-R), or Heavy Agricultural (A-3). The General Plan land use designation for all parcels in the immediate vicinity of the Project site is Agriculture; west of the Westside Main Canal, the General Plan land use designation is generally Recreation/Open Space.

Source: Imperial County 2015a, Table 7.

FIGURE 4.8-1
COUNTY OF IMPERIAL NOISE/LAND USE COMPATIBILITY

Agricultural uses are located on the Project site and properties to the north, west, and southwest; associated buildings include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site), and a single-family residence is located northeast of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from the Project site). Additionally, three single-family residences are located to the west of the intersection of Kubler Road and Drew Road (approximately 0.5 miles west of the Drew Solar Project site).

Solar generation facilities are located on properties to the east and south of the Project site; associated buildings include an O&M building at the SDG&E Drew Switchyard (approximately 400 feet from the Drew Solar Project site), and an O&M building at the Centinela Solar Project (approximately 0.7 miles east of the Drew Solar Project site).

A. Transportation Network

Mapping indicates that road elements in the vicinity of the Project site include SR 98, Drew Road, Pulliam Road, Kubler Road, and Mandrapa Road.

The segment of SR 98 adjacent to the Project site is a two-lane undivided highway with a 24-foot-wide paved width. Access from Drew Road and Pulliam Road is regulated by stop signs. The highway is in good condition. The posted speed limit for SR 98 was observed to be 65 miles per hour (mph), with a reduced speed limit of 55 mph for any vehicle towing.

The segment of Drew Road adjacent to the Project site is a 2-lane undivided roadway with an approximate paved width of 24 feet. No posted speed limit was observed for this segment of Drew Road.

The segment of Pulliam Road adjacent to the Project site is a two-lane undivided roadway with a paved width of up to 24-feet. No posted speed limit was observed for this segment of Pulliam Road. Pulliam Road does not accommodate substantial traffic volumes; traffic is generally limited to trips generated by adjacent agricultural uses and solar generation facilities.

The segment of Kubler Road adjacent to the Project site is a two-lane undivided roadway with a paved width of up to 24 feet. No posted speed limit was observed for this segment of Kubler Road. Kubler Road does not accommodate substantial traffic volumes; traffic is generally limited to trips generated by adjacent agricultural uses and solar generation facilities.

Mandrapa Road is an unpaved, access route for agricultural uses. Grading was observed to be uneven and plants were observed on sections of the access route. Access from SR 98 is afforded by a gap in traffic barriers with no traffic control device. Mandrapa Road does not accommodate substantial traffic volumes.

A. Ambient Noise Environment

Three short-term noise measurements were taken on December 5, 2017 and one 24-hour measurement was taken between December 5 and 6, 2017. Measurements were taken using two Larson-Davis Model LxT Type 1 Integrating Sound Level Meter, serial numbers 3827 and 3828. The meters meet American National Standards Institute (ANSI) S1-4 specifications for Type 1 instruments. Meter was calibrated before and after measurements.

The following parameters were used:

Filter:	A-weighted
Response:	Slow
Time History Period:	5 seconds
Height	5 feet above ground

Noise measurements were taken to obtain existing ambient noise levels. Noise measurements are described below and shown in **Table 4.8-9**. Observed traffic volumes were counted during noise measurements; the results are shown in **Table 4.8-10**. The locations of the measurements are shown on **Figure 4.8-2**, and the noise measurement data are contained in Attachment 1 of **Appendix F** of this Draft EIR.

TABLE 4.8-9
NOISE MEASUREMENT DATA

Site ID	Location	Start Time	Duration	Noise Level (dB[A])			Noise Sources
				Leq	Lmax	Lmin	
1	Southwest of the intersection of Pulliam Road and Kubler Road	2:27 pm	20 minutes	38.8	57.8	28.4	Wind; Vehicle traffic on Pulliam Road
2	Southeast of the intersection of Drew Road and Kubler Road	2:58 pm	20 minutes	60.0	80.8	27.4	Vehicle traffic on Drew Road
3	North of SR 98, 50 feet from SR 98 centerline	3:30 pm	20 minutes	63.9	87.6	27.3	Vehicle traffic on SR 98
4	Along Brockman Drain, 1,420 feet north of SR 98	2:30 pm	24 hours	47.8*	49.2*	28.0*	Wind; Distant vehicle traffic on SR 98

Source: RECON 2018b.

dB(A) = A-weighted decibels; L_{eq} = equivalent noise level; L_{max} = maximum hourly L_{eq}; L_{min} = minimum hourly L_{eq}; SR 98 = State Route 98

* Measurement 4 was a 24-hour measurement. The community noise equivalent level is reported in the L_{eq} column, the maximum hourly L_{eq} is reported in the L_{max} column, and the minimum hourly L_{eq} is reported in the L_{min} column.

TABLE 4.8-10
OBSERVED TRAFFIC COUNTS

Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-Cycles
1	Pulliam Road and Kubler Road	Any	1	0	0	0	0
2	Drew Road	Any	7	0	0	0	0
3	State Route 98	Eastbound	30	0	2	0	0
		Westbound	8	0	1	0	0

Source: Field traffic counts in RECON 2018b.
**Tractor on State Route 98 categorized as a heavy truck*

Measurement 1 was located at the northeast corner of the Project site, 75 feet south of the centerline of Kubler Road and 50 feet west of the centerline of Pulliam Road. During the measurement, one pickup truck approached the intersection heading northbound on Pulliam Road and turned east onto Kubler Road. The primary source of noise at this location was wind. The average measured noise level during Measurement 1 was 38.8 dB(A) L_{eq}.

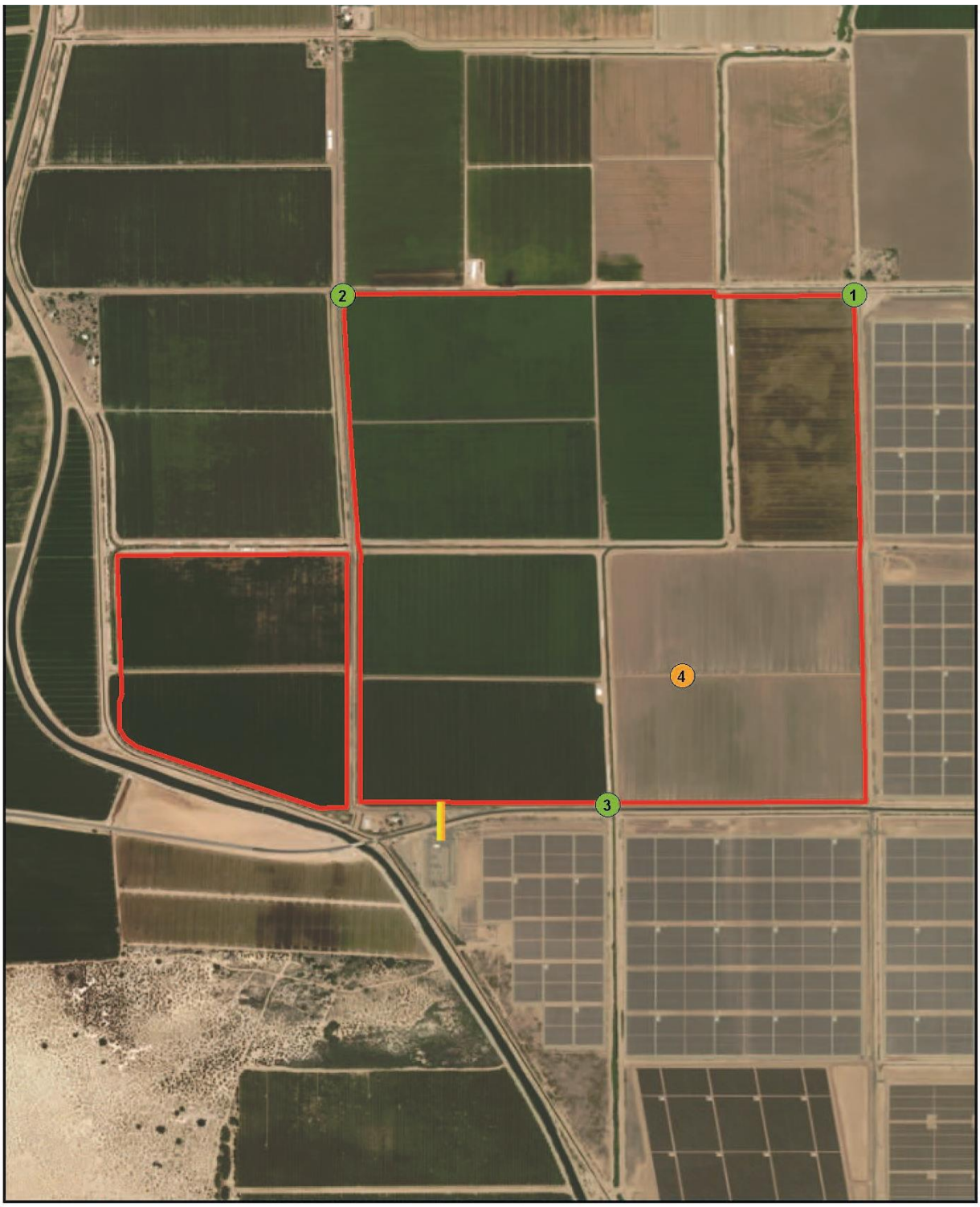

FIGURE 4.8-2
NOISE MEASUREMENT LOCATIONS

Measurement 2 was located at the northwest corner of the Project site, 50 feet south of the centerline of Kubler Road and 50 feet east of the centerline of Drew Road. During the measurement, seven passenger vehicles traveled along Drew Road. No traffic was observed on Kubler Road. The primary source of noise at this location was vehicle traffic on Drew Road.

Due to the deteriorated condition of Drew Road, traffic noise levels were notably higher than would be expected. No posted speed limit for Drew Road was observed and vehicle speeds were highly varied. The average measured noise level during Measurement 2 was 60.0 dB(A) L_{eq}.

Measurement 3 was located along the southern boundary of the Project site, 50 feet north of the centerline of SR 98 and across from the driveway to the solar farm to the south. During the measurement, 38 passenger vehicles, 2 heavy trucks, and 1 farm-tractor traveled along SR 98. The primary source of noise at this location was vehicle traffic on SR 98. Traffic was free flow and nearly all vehicles were observed to travel near the posted speed limit of 65 mph. The average measured noise level during Measurement 3 was 63.9 dB(A) L_{eq}.

Measurement 4 was located along a drainage ditch in the interior of the Project site, approximately 1,420 feet north of the centerline of SR 98 and approximately 2,000 feet west of Pulliam Road. The measured noise level during Measurement 4 was 47.8 CNEL. A minimum hourly noise level of 28.0 dB(A) L_{eq} was measured between 12:30 and 1:30 a.m. and a maximum hourly noise level of 49.2 dB(A) L_{eq} was measured between 1:30 and 2:30 p.m.

4.8.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to noise if it would result in any of the following:

a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

b) Generation of excessive groundborne vibration or groundborne noise levels.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the Project area to excessive noise levels.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Criterion "c" was eliminated from the Initial Study checklist because the Project site is not located within two miles of a public airport or a private airstrip. Thus, the Project site would not be exposed to excessive aircraft noise. As a solar facility, the Project is industrial in nature and therefore is not a noise sensitive land use. No impacts are identified with regard to airport noise and this issue will not be discussed in the EIR.

C. METHODOLOGY

Construction Analysis Methodology

Project construction noise would be generated by diesel engine-driven construction equipment used for site preparation activities such as clearing, grading, perimeter fencing, development of staging areas and site access roads; and would involve facility installation activities such as installation of support masts (impact pile driving), trenching utility connections, construction of electrical distribution facilities, and construction of the O&M building(s). Diesel engine-driven trucks also would bring materials to the site.

Construction equipment with diesel engines typically generate maximum noise levels from 80 to 90 dB(A) L_{eq} at a distance of 50 feet (Federal Highway Administration [FHWA] 2006). **Table 4.8-11** summarizes typical construction equipment noise levels. During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Thus, average hourly noise levels would be less than maximum noise levels.

TABLE 4.8-11
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Noise Level at 50 Feet [dB(A) Leq]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%

Source: FTA 2006. dB(A) Leq = weighted decibels equivalent noise level.

Earthwork activities generally result in the highest noise levels at adjacent properties. During earthworks operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Although maximum noise levels reach 80 to 90 dB(A) at a distance of 50-feet during most construction activities, hourly equivalent noise level generated by typical earthworks and paving activities is generally 82 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing the loudest pieces of equipment working simultaneously.

The Project site and the area surrounding all off-site roadway extensions are relatively flat. This analysis conservatively assumes no attenuation from barriers and topography. Ground conditions typically change during construction due to fugitive dust control practices such as soil stabilization through site watering and best management practices such as subgrade compaction. This analysis conservatively models ground conditions as acoustically hard. Thus, construction noise would be characterized by hard site attenuation rate of 6 dB(A) per doubling of distance.

Operations Analysis Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPlan Essential (SoundPlan), version 3.0 (Navcon Engineering 2015). SoundPlan calculates noise propagation based on algorithms and reference levels published by various government agencies, FHWA, and the International Standards Organization (ISO). For traffic the model uses the FHWA traffic noise model algorithms to predict noise levels. For stationary sources, SoundPlan models propagation based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The ISO Standard 9613-2 assumes that all receptors would be downwind of stationary sources. This is a worst-case assumption for total noise impacts, since, in reality,only some receptors will be downwind at any one time. The model uses various input parameters, such as distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Sources and receivers were input into the model using three-dimensional coordinates. This analysis conservatively assumes no attenuation from barriers and topography. In all cases, receivers were modeled at 5 feet above ground elevation, which represents the average height of the human ear. The model outputs include noise level contours and noise levels at specific receivers.

Stationary sources of noise associated with the operation of the project would include inverters, transformers, solar panel tracker motors, a substation, and transmission gen-tie lines (one gen-tie is for solar generation and one is for energy storage). As the solar generation facility would only generate electricity between sunrise and sunset, noise from solar field inverters and transformers would likely be limited to daylight hours. After daylight hours energy storage facilities may continue to contribute energy to the grid. A single technology or provider has not been selected for the energy storage component of the project. Energy storage technology may be centralized or may be distributed throughout the plant. Depending on the technology selected for the energy storage component, the substation and transmission gen-tie lines as well as the solar field inverters and transformers may be active during both daylight and nighttime hours.

Inverters, transformers, and solar panel tracker motors would be distributed throughout the facility at each solar array block. It is not known at this time which manufacturer, brand, or model of units would be selected for use in the project, or the specific location units would be placed.

Inverters

Based on review of various manufacturer specifications of inverters sized for nominal 1-to-2-MW solar arrays, a representative sound pressure level of 65 dB(A) at 5 feet from each inverter unit was

selected for analysis (Satcon 2008; Attachment 2). This sound level equates to a sound power level of 77 dB(A). The height of the noise source was modeled at 1 meter.

Transformers

The National Electrical Manufacturers Association (NEMA) specifies audible sound level limits for transformers. Based on these standards and the anticipated size of project transformers (up to 2 kVA), project transformers may generate noise levels up to 61 dB(A) at 5 feet (NEMA 2013; Attachment 3). This equates to a sound power level of 73 dB(A). The height of the noise source was modeled at 1 meter.

Tracker Motors

Based on available information for similar equipment, solar panel tracker motors typically generate instantaneous sound power levels of up to 79 dB(A), which equates to sound pressure levels of up to 67 dB(A) at 5 feet (ICF International 2010). Solar panel tracker motors are not in operation continuously. Solar panel tracker motors would generally reposition the arrays several times during daylight hours and would also reposition the arrays once at sunset (resetting array position in preparation for the following day). Each individual repositioning would be brief and the frequency at which arrays are repositioned would be anticipated to be limited to a few times each hour or less. Hourly average noise levels would be less than instantaneous noise levels. During ambient noise measurements, solar panel tracker motors at adjacent solar generation facilities were observed. Repositioning lasted only a few seconds, was infrequent, and did not substantially contribute to the ambient noise environment. As solar panel tracker motors would not substantially contribute to the ambient noise environment they were not included in noise contour modeling.

Substation

The project would include the construction of up to one substation for each of the six proposed CUPs and the Gen-Tie Lines. The substation would include equipment such as switches, circuit breakers, and transformers. Switches and circuit breakers do not typically generate substantial noise. The power rating for substation transformers would be several times higher than the power rating for transformers distributed throughout the facility at each solar array block. Based on NEMA standards for oil-immersed transformers, a sound level of 67 dB(A) at 5 feet would be representative of the substation (NEMA 2013). This equates to a sound power level of 97 dB(A). The height of the noise source was modeled at 2 meters.

Gen-Tie

The Gen-Tie Lines would be extended between the Project's substation and the SDG&E Drew Switchyard. Corona discharge results from the partial breakdown of the electrical insulating properties of the air surrounding the conductors; energy discharged from the line may form small local pressure changes that result in audible hissing or crackling noises. The intensity of corona noise varies depending on the atmospheric conditions such as atmospheric moisture and pressure (which is related to altitude). The noise generated by similar transmission lines (i.e. approximately 230 kV) has previously been analyzed to be 25 dB(A) at 50 feet. This equates to a sound power level per length of 45 dB(A) per meter. The height of the noise source was modeled at 6 meters.

Table 4.8-12 summarizes equipment noise levels and heights.

TABLE 4.8-12
PROJECT EQUIPMENT MODELING PARAMETERS

Equipment	Sound Power Level	Noise Source Height
Inverter	87 dB(A)	1 meter
Transformer	86 dB(A)	1 meter
Substation	87 dB(A)	2 meters
Gen-Tie Line	45 dB(A) per meter	6 meters
dB(A) = A=weighted decibels		

Source: RECON 2018b.

Traffic Noise Analysis Methodology

Traffic noise increase would be considered significant where the increase would degrade the existing ambient noise environment at a noise-sensitive use. As discussed in section 1.2, changes in noise levels are generally perceived by the average human ear as follows: 3 dB(A) is barely perceptible, 5 dB(A) is readily perceptible, and 10 dB(A) is perceived as a doubling or halving of noise (Caltrans 2013a). Thus, for this analysis, a substantial permanent increase in the ambient noise levels is defined as a 3 dB(A) increase.

Vibration Analysis Methodology

A quantitative assessment of potential vibration impacts from construction activities, such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation, may be conducted using the following equations (Caltrans 2013b).

Vibration impacts from normal equipment to structures may be estimated at any distance from the following equation:

$PPV_{equipment} = PPV_{reference} \times (25/Distance)^{1.5}$

Where: $PPV_{equipment}$ is the peak particle velocity in inches per second of the equipment adjusted for distance; and $PPV_{reference}$ is the reference vibration level in inches per second as shown in **Table 4.8-13**.

TABLE 4.8-13
CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Equipment	Peak Particle Velocity at 25 feet (inches per second)[1]	Approximate Groundborne Noise Level at 25 feet[1]
Large Bulldozer	0.089	87
Trucks	0.076	86
Mounted Impact Hammer	0.089	87
Impact Pile Driver	0.644	104

Source: FTA 2006; Caltrans 2013b in RECON 2018b.

[1] Where noise level is the level in decibels referenced to 1 micro-inch/second and based on the root mean square velocity amplitude.

Sensitive Receptors

Where a project has the potential to cause a significant noise impact to sensitive receptors along area roadways, the County requires measures to reduce the impact to a less than significant level. Possible measures include a reduction of the intensity of the proposed project; construction of noise attenuation walls and/or landscaped earth berms; or other changes in project design or its proposed access. For non-residential projects, reduced hours of operation may also be required by the County.

Operational Noise

Operational noise impacts are based on current daytime ambient noise levels, the County Noise/Land Use Compatibility Guidelines and measurements of similar equipment and standard noise attenuation calculations of solar facilities. Land disturbance acreages, equipment, schedule, mileage and workforce information is based on the most up-to-date engineering available from the Applicant and typically represent conservative estimates.

Daytime ambient noise levels were measured between 38.8 and 63.9 dBA Leq (refer to **Table 4.8-9**), based on 1-hour daytime measurements. The ambient noise level represents the daytime ambient noise levels and is expressed as Leq (average over sample length). A noise increase of 10 dBA Leq, is considered a substantial increase in noise. Based on the County Noise/Land Use Compatibility Guidelines (**Figure 4.8-1**), noise levels of up to 70 dBA CNEL are considered to be "normally acceptable" in areas designated for agricultural land uses.

Corona Noise/Corona Discharge

The permanent noise sources that would occur within the solar field site parcels are limited to corona noise from the Gen-Tie line. The potential for noise from corona discharge is greatest with high voltage lines during wet weather or near inconsistencies or cuts in the metal surface of the line itself. The corona noise associated with a 230-kV line is not expected to exceed 40 dBA (Imperial County 2014, p. 4.8-19).

Decommissioning Noise

Decommissioning noise impacts are based on the proximity of the decommissioning activity to noise sensitive receptors, the magnitude and duration of deconstruction noise at the nearest sensitive receptor, and the day of week/time of day.

The Gen-Tie and collector lines will be decommissioned with the respective CUP. However, if the Gen-Tie and/or collector line of the CUP is still being utilized by another CUP, or nearby project, the line and/or structures of the respective Gen-Tie and/or collector line will remain. For example, if the Mount Signal Solar Farm or Calexico Solar Farms is using the Gen-Tie, it will not be decommissioned.

D. Project Impacts and Mitigation Measures

Substantial Temporary or Permanent Noise Increase in Excess of Standards

Impact 4.8.1 Construction and decommissioning activities would cause short-term increases in noise on and in the vicinity of the Project. Likewise, operation of the Full Build-out Scenario or the Phased CUP Scenario could cause permanent noise levels to rise. However, the Project includes noise- and vibration-reducing design features which would reduce noise levels during construction, operation and decommissioning to be within County standards. Therefore, impacts with regard to noise levels in excess of standards and substantial temporary and permanent noise increases are considered **less than significant** for both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Nearby noise-sensitive receivers include a single-family residence located immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; a bee company operates out of this location) and a single-family residence located northeast of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from Project site).

Construction

Noise associated with the site preparation and facility installation will potentially result in short-term impacts to surrounding properties. Site preparation and facility installation would include use of a variety of noise-generating equipment such as scrapers, excavators, loaders, and water trucks, along with others, would be used during each construction phase.

As discussed in **Table 4.8-12**, the loudest construction activities typically result in hourly average noise levels of approximately 82 dB(A) L_{eq} at 50 feet from the center of the construction activity. Actual noise levels would vary depending on the nature of the construction phase, including the duration of specific activities, nature of the equipment involved, location of a sensitive receiver, and nature of intervening barriers. Therefore, the use of 82 dB(A) L_{eq} at 50 feet is considered a conservative value.

As previously discussed, the County General Plan Noise Element establishes construction time of day restrictions and noise level limits. Construction activities may only occur Monday through Friday between the hours of 7:00 a.m. and 7:00 p.m. or Saturday between the hours of 9:00 a.m. and 5:00 p.m., excluding holidays.

Construction activities can be evaluated as point sources and noise from construction sites typically attenuate at a rate of 6 dB(A) for every doubling of the distance. Due to the large size of the Project site, construction activities are anticipated to be phased. This analysis assumes construction may be temporarily focused in a 10-acre area for at least 8 hours; this focused area is equivalent to approximately one-quarter of a typical 40-acre lot (i.e. land division quarter-quarter section). The assumption that construction would be focused in a small area is conservative because it would reduce the average distance between construction equipment and adjacent receivers. In a worst-case scenario with all construction activity occurring in the 10-acre area nearest to the sensitive receptor immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; a bee company operates out of this location), the distance from the center of construction activity to the nearest property line would be approximately 760 feet. Thus, construction noise levels would attenuate to 58 dB(A) $L_{eq(8h)}$ at the nearest sensitive receptor.

Thus, construction noise levels would comply with 75 dB(A) $L_{eq(8h)}$ noise level limit established by County Noise Element. Therefore, impacts with regard to noise levels in excess of standards and substantial temporary noise increases are considered **less than significant** during Project construction for both the Full Build-Out Scenario and Phased CUP Scenario.

Operation

Following the Operational Analysis Methodology described above, ground-floor noise level contours were modeled. Stationary sources of noise associated with the operation of the project would include inverters, transformers, solar panel tracker motors, substation(s), and transmission gen-tie lines. Noise associated with project operation would attenuate to less than 50 dB(A) L_{eq} within the Project site boundary. On-site generated noise would attenuate to 44 dB(A) L_{eq} at the nearest single-family residence immediately (west of the intersection of Drew Road and SR 98). Noise contours are shown on **Figure 4.8-3**. SoundPLAN data for on-site generated noise modeling are contained in Attachment 4 of **Appendix F** of this Draft EIR.

Source: RECON 2018b.

FIGURE 4.8-3
NOISE CONTOURS

The County Code of Ordinances establishes property line noise standards for residential, commercial, light industrial, and general industrial zoning districts. The Project site and all surrounding properties are in agricultural zoning districts. The property line noise standard for manufacturing, light industrial, industrial park, and agricultural zoning districts is 70 dB(A) L_{eq}. The nearest non-agricultural zone is the parcel at the southeast corner of the intersection of SR 98 and Brockman Road, which is approximately 5,040 feet from the Project site.

As shown in **Figure 4.8-3**, noise associated with project operation would attenuate to less than 50 dB(A) Leq within the Project site boundary. On-site generated noise would attenuate to 44 dB(A) Leq at the single-family residence immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; General Agricultural [A2] zone). On-site generated noise would attenuate to 20 dB(A) Leq at the single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from Project site; Agricultural/Rural Zone [A2R] zone). Property line noise level limits from the County General Plan Noise Element are 70 dB(A) Leq for agricultural zones. Noise levels would not exceed applicable daytime or nighttime property line noise level limits from the County General Plan Noise Element.

During operations, project-generated traffic would increase volumes on local roadways and thereby increase traffic noise levels in the Project area. Project trip generation would be extremely limited–up to 20 trips per day. Ambient noise level increases attributable to project-generated traffic are anticipated to be less than 3 dB(A) along all roadways. Therefore, impacts with regard to noise levels in excess of standards and substantial permanent noise increases are considered **less than significant** during Project operation for both the Full Build-Out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

Decommissioning activities are similar to construction activities but generate approximately half the vehicle traffic and equipment compared to construction activities. Overall, decommissioning activities are not anticipated to last as long as construction activities. However, even though the decommissioning activities would move around each CUP, the duration of the decommissioning activities (e.g., demolition, excavation, restoration) immediately proximate to a sensitive noise receptors would be approximately the same as would occur during construction. Decommissioning noise impacts are based on the proximity of the activity to noise sensitive receptors, the magnitude and duration of construction noise at the nearest sensitive receptor, and the day of week/time of day.

Decommissioning of each CUP (17-0031 thru 17-0035 and 18-0001), would generate noise from the removal of the solar facilities and site reclamation. Noise would vary depending on the activity, type of mobile and stationary equipment and vehicles, and duration of activities. Facilities removal and site restoration involves demolition, grading, compacting, and excavating, which would include backhoes, bulldozers, loaders, and excavation equipment (e.g., graders and scrapers).

During Project decommissioning, site demolition and restoration are expected to produce the highest noise levels. Earthmoving activities generate hourly average construction noise levels of approximately 75 dBA Leq at a distance 50 feet. However, noise from earthmoving activities would be substantially less when averaged over an 8-hour workday. The Imperial County General Plan Noise Element limits construction noise to 75 dBA Leq over an 8-hour average, measured at the receptor (i.e., occupied residence). Decommissioning noise for the Project is not anticipated to exceed the County Noise/Land Use Compatibility Guidelines threshold of 70 dBA CNEL at an occupied farmhouse when averaged over an 8-hour period. Therefore, Project decommissioning noise would not exceed the County's construction noise level threshold at the nearest residence. Therefore, impacts associated with decommissioning noise levels in excess of standards or a substantial temporary noise increase would be **less than**

significant for both the Full Build-out Scenario and the Phased CUP Scenario. Following reclamation, noise levels would be similar to existing conditions.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Groundborne Vibration or Groundborne Noise Level Impacts

Impact 4.8.2 The proposed Project would generate groundborne vibration or noise levels associated with construction and operation of on-site equipment. However, the levels are anticipated to be below the level of human annoyance and the significance threshold. Therefore, groundborne vibration and noise impacts are considered **less than significant** for both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Project construction would include the use of vibration-generating construction equipment such as large bulldozers, loaded trucks, jackhammers, and mast impact pile drivers. As shown in **Table 4.8-7**, the vibration level threshold at which transient vibration sources (such as construction equipment) are considered to be distinctly perceptible is 0.24 PPV. Groundborne noise and vibration from vibration-generating construction equipment such as large bulldozers, loaded trucks, and jackhammers would attenuate to less than 0.2 PPV at 12, 10, and 5 feet, respectively.

Project-generated groundborne noise and vibration levels would be highest during impact pile driving. Project solar array support masts would generally be set back from the property line at least 40 feet to accommodate perimeter access roads. The Project site is also bounded by Kubler Road to the north, Westside Main Canal to the west, SR 98 to the south, and Pulliam Road to the east. Groundborne noise and vibration from impact pile drivers would attenuate to less than the transient vibration level threshold within 72 feet, which would generally be within the public right-of-way.

The nearest structure to the Project site is the single-family residence (approximately 100 feet from Project site; a bee company operates out of this location) immediately west of the intersection of Drew Road and SR 98. Project construction is not anticipated to involve the use of construction equipment within 15 feet of existing structures. Impact pile driving would be anticipated to occur approximately 180 feet from this structure. Transient vibration levels at the single-family residence would be anticipated to reach up to 0.073 PPV. Vibration levels would not exceed the transient vibration level threshold of 0.2 PPV. Limiting vibration levels to below 0.2 PPV at residential structures would prevent structural damage regardless of building construction type. Therefore, groundborne noise and vibration impacts would be less than significant during construction for both the Full Build-Out Scenario and Phased CUP Scenario.

Operation

Operation of both the Full Build-out Scenario and the Phased CUP Scenario would generate negligible ground-borne vibration at the source (i.e., inverters, energy storage components, transformers, trackers, and transmission lines, etc.). As a result, Project operation would not result in ground-borne vibration

impacts at the nearest residences. No significant impact would occur. Therefore, operational groundborne vibration or noise level impacts would be **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning

As described under the discussion of construction, the County of Imperial does not have established significance criteria for groundborne vibration or groundborne noise. Instead, the FTA guidelines for vibration damage criteria for various structural categories and the FTA thresholds for human disturbance due to groundborne noise are applied. Potential for groundborne vibration during decommissioning would be similar to construction. As with construction, impact pile driving would be anticipated to occur approximately 180 feet from the single-family residence immediately west of the intersection of Drew Road and SR 98. Thus, during Project decommissioning activities, vibration would be well below the level of human annoyance and structural damage. Therefore, decommissioning groundborne vibration or noise level impacts would be **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.8.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for cumulative noise impacts is the area surrounding the proposed solar field site parcels where other potential project development similar to the proposed Project is occurring, such as: Centinela Solar (422 acres to the north); Wistaria Ranch, Iris Cluster (to the east) and Calexico 1-A and 1-B to the southeast. Construction, operational, and decommissioning noise and vibration associated with the Project, combined with noise generated by other foreseeable developments in the vicinity of the solar field site parcels is considered in determining the potential to result in cumulative impacts to noise-sensitive receptors in the Project area. The cumulative projects are identified Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Noise Increases/Groundborne Vibration

Impact 4.8.3 Long-term operation of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the region, would not result in a substantial contribution to cumulative noise levels or groundborne vibration. Therefore, cumulative noise impacts and groundborne vibration would be considered **less than cumulatively considerable** for both the Full Build-Out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

The proposed Project is located in an area of other potential cumulative development, including other solar projects (refer to Table 3.0-1 and Figure 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used). Project construction noise and groundborne vibration combined with construction noise and vibration generated by other foreseeable developments in the Project vicinity is considered in determining the potential to result in cumulative impacts to noise-sensitive receptors in the Project area.

The noise sensitive receptors in the Project vicinity would be subject to noise and vibration generated during construction activities. As previously described in Impacts 4.8.1, 4.8.2 and 4.8.3, noise sensitive receptors would not be subject to construction noise levels in excess of County and/or FTA standards (for vibration). These same sensitive receptors are located too far from construction noise and vibrations generated by other cumulative projects. Construction noise and vibration from other cumulative projects is localized to large agricultural parcels surrounded by other large agricultural parcels; occurs over a relatively short-term duration during daytime hours; and, is limited to construction of uninhabited facilities with small O&M buildings.

Therefore, the contribution of construction noise and vibration generated by the Full Build-out Scenario or the Phased CUP Scenario to cumulative construction noise impacts would be **less than cumulatively considerable**. Likewise, construction noise and vibration from the Full Build-out Scenario or the Phased CUP Scenario, when combined with negligible construction noise and vibration impacts from other cumulative projects, would result in a **less than cumulatively considerable impact** on the sensitive receptors in the Project area.

Operation

Once constructed, the proposed facilities would operate at relatively low localized noise levels during periods of daytime ambient noise levels. Vehicle trip noise associated with operation of the Full Build-out Scenario or the Phased CUP Scenario would be negligible based on the extremely limited number of trips (i.e. up to 20 trips per day). Substantial land area is present to act as a noise attenuation buffer between cumulative projects. Therefore, the contribution of operational noise and vibrations generated by the Full Build-out Scenario or the Phased CUP Scenario to cumulative noise impacts would be **less than cumulatively considerable**. Likewise, operational noise and vibration from the Full Build-out Scenario or the Phased CUP Scenario, when combined with negligible noise and vibration impacts from other cumulative projects, would result in a **less than cumulatively considerable impact** on the sensitive receptors in the Project area.

Decommissioning/Reclamation

Project decommissioning would entail removal of all Project components, and restoration of the solar field site parcels to its original condition. Project decommissioning noise and vibration combined with potential decommissioning of other cumulative projects in the vicinity is considered in determining the potential to result in cumulative impacts to noise-sensitive receptors in the Project area.

The noise sensitive receptors in the Project area would be subject to decommissioning noise and vibration. As previously described in Impacts 4.8.1, 4.8.2 and 4.8.3, noise sensitive receptors would not be subject to decommissioning noise levels in excess of County and/or FTA standards (for vibration). These same sensitive receptors are located too far from decommissioning noise and vibrations potentially

generated by other cumulative projects that may be undergoing decommissioning at the same time as the Full Build-out Scenario or any phase of the Phased CUP Scenario. As with construction, decommissioning noise and vibration from other cumulative projects would be localized and occur for a short duration during daytime hours. None of the on-site uses being removed as part of decommissioning are sensitive receptors (i.e. O&M Buildings). Therefore, the contribution of decommissioning noise and vibrations generated by the Full Build-out Scenario or the Phased CUP Scenario to potential cumulative decommissioning noise impacts would be **less than cumulatively considerable**. Likewise, decommissioning noise and vibration from the Full Build-out Scenario or the Phased CUP Scenario, when combined with potential negligible decommissioning noise and vibration impacts from other cumulative projects, would result in a **less than cumulatively considerable impact** on the sensitive receptors in the Project area.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

SECTION 4.9
AGRICULTURAL RESOURCES

This section provides a background discussion of the regulatory framework and the affected environment. The regulatory framework discusses the federal, state, and local regulations. The affected environment discussion focuses on the existing activities, important farmlands categories, zoning, agricultural soil classifications, Imperial County agricultural conversion, on-site soils, and Williamson Act lands.

This section also discloses the potential impacts on agricultural resources associated with the implementation of the proposed Project. Existing environmental conditions in the affected areas are addressed, environmental impacts are analyzed, and mitigation measures are identified to reduce or avoid adverse impacts to agricultural resources.

This section is based on the following resources: the Imperial County General Plan Agricultural Element (2015); soil classifications designated by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS); 2016 California Department of Conservation (DOC) Farmland Monitoring and Mapping Program (FMMP) data and guidance; and the *Land Evaluation and Site Assessment Analysis for the Drew Solar Project, Imperial County, California* (RECON 2018c). The Land Evaluation and Site Assessment (LESA) Analysis is provided on the attached CD of Technical Appendices as **Appendix H** of this EIR.

The worst-case scenario consists of the Full Build-out Scenario as it would result in the temporary conversion of the greatest amount of land in the shortest amount of time.

4.9.1 REGULATORY FRAMEWORK

A. FEDERAL

Farmland Protection Policy Act (FPPA)

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that—to the extent possible—federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. The FPPA is overseen by the U.S. Department of Agriculture's Natural Resources Conservation Service.

B. 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 lands in agricultural use to be placed under contract (agricultural preserve) between a local government and a landowner. Amendments to the Budget Act of 2009 reduced the Williamson Act subvention payments budget to $1,000, essentially suspending the subvention payments to the Counties.

Land under a Williamson Act Contract can be in either a renewal status or a non-renewal status. Non-renewal and cancellation lands are candidates for potential urbanization within a period of ten years. The requirements necessary for cancellation of land conservation contracts are outlined in Government Code Section 51282. The County must document the justification for the cancellation through a set of findings. Unless the land is covered by a Farmland Security Zone (FSZ) contract, the Williamson Act requires that local agencies make both the Consistency with the Williamson Act and Public Interest findings.

4.9 AGRICULTURAL RESOURCES

On February 23, 2010, the Imperial County Board of Supervisors voted to not accept any new Williamson Act contracts and not to renew existing contracts, due to the elimination of the subvention funding from the state budget. Effective January 01, 2011 non-renewal was filed either by the landowner or the County for all Williamson Act contracts in Imperial County (DOC 2016a). All Williamson Act contracts in Imperial County will terminate on or before December 31, 2018.

None of the Project site parcels are currently under Williamson Act contracts. There are currently nine parcels (051-380-033-000, 051-380-032-000, 052-170-001-000, 052-170-072-000, 052-170-073-000, 052-170-076-000, 052-170-078-000, 052-170-035-000, and 051-390-023-000) within the surrounding vicinity under Williamson Act contracts, all of which are in involuntary non-renewal status with the contracts expiring by December 31, 2018 (Luna 2018). Therefore, conversion of land under Williamson Act Contract on the Project site (inclusive of the Solar Energy Generation Component and Energy Storage Component) is not an issue and will not be discussed in the analysis of impacts.

California Department of Conservation Guidance

The DOC Division of Land Resource Protection prepared a letter providing guidance regarding the potential impacts of solar projects on agricultural land and resources. The DOC "considers the construction of a solar facility that removes and replaces agriculture on agricultural lands to have a significant impact on those agricultural lands…While solar panels may be an allowed use under the county zoning and General Plan, they can and should be considered an impact under CEQA to the Project site's agricultural resources" (DOC 2010).

The letter goes on to state that "Although direct conversion of agricultural land is often an unavoidable impact under the California Environmental Quality Act (CEQA) analysis, mitigation measures must be considered…However, reduction to a level below significance is not a criterion for mitigation. Rather, the criterion is feasible mitigation that lessens a project's impacts. Pursuant to CEQA Guideline Section 15370, mitigation includes measures that "avoid, minimize, rectify, reduce or eliminate, or compensate" for the impact. All measures allegedly feasible should be included in the DEIR. Each measure should be discussed, as well as the reasoning for selection or rejection. A measure brought to that attention of the Lead Agency should not be left out unless it is infeasible based on its elements. Finally, when presenting mitigation measures in the DEIR, it is important to note that mitigation should be specific, measurable actions that allow monitoring to ensure their implementation and evaluation of success. A mitigation consisting only of a statement of intention or an unspecified future action may not be adequate pursuant to CEQA."

The DOC letter also identified project impacts on agricultural land as follows:

> *When determining the agricultural value of the land, the value of a property may have been reduced over the years due to inactivity, but it does not mean that there is no longer any agricultural value. The inability to farm the land, rather than the choice not to do so, is what could constitute a reduced agricultural value. The Division recommends the following discussion under the Agricultural Resources section of the Draft EIR:*
>
> - *Type, amount, and location of farmland (Prime, Unique, and Farmland of Statewide Importance) conversion that may result directly and indirectly from project implementation and growth inducement, respectively.*
> - *Impacts on current and future agricultural operations; e.g., land-use conflicts, increases in land values and taxes, etc.*

- *Incremental project impacts leading to cumulative impacts on agricultural land. This would include impacts from uses allowed with the proposed solar facility, as well as impacts from past, current and likely projects in the future.*

Under California Code of Regulations Section 15064.7, impacts on agricultural resources may also be both quantified and qualified by use of established thresholds of significance. As such, the Division has developed a California version of the USDA Land Evaluation and Site Assessment (LESA) Model. The California LESA model is a semi-quantitative rating system for establishing the environmental significance of project-specific impacts on farmland. The model may also be used to rate the relative value of alternative Project sites.

The DOC letter also identified solar facility mitigations and Reclamation Plan to address temporary displacement of agricultural resources. Specific to these issues, the DOC letter states:

If the solar facility is considered a temporary displacement of agricultural resources, then there should be some assurances that it will be temporary and will be removed in the future. Hence the need for a reclamation plan. The loss of agricultural land (even temporary) represents a reduction in the State's agricultural land resources. The Division has witnessed the negative impacts of non-operational wind power generation facilities and related equipment that have been left to deteriorate on agricultural land. For that reason, the Division offers a variety of permitting conditions the County might use for energy projects on agricultural land:

- *Require a reclamation plan suited for solar facilities, based on the principles of the Surface Mining and Reclamation Act (SMARA). As part of this plan, a performance bond or other similar measures may be used.*
- *A typical requirement would be for the soil to be restored to the same condition it was in prior to the solar facility's construction (i.e. pre-Project soil conditions). Whatever project-related material have been brought in, or changes made to the land (i.e. graveling, roads, compaction, equipment), would be removed once the solar facility (or portions of) is on longer active.*
- *Solar project are generally considered to be "temporary." The County could require that a new permit must be applied for after a certain period of time. Because this is a new and unprecedented use of agricultural land, this would allow the county more flexibility in determining what conditional uses or conditions may be most appropriate in the longer term.*
- *Require permanent agricultural conservation easements of land of at least equal quality and size as partial compensation for the direct loss of agricultural land.*
- *Conservation easements will protect a portion of those remaining agricultural land resources and lessen project impacts in accordance with California Environmental Quality Act (CEQ Guidelines Section 15370. The Department highlight this measure because of its acceptance and use by lead agencies as an appropriate mitigation measure under CEQA and because it follows and established rationale similar to that of wildlife habitat mitigation.*

Mitigation via agricultural conservation easements can be implemented by at least two alternative approaches: the outright purchase of easements or the donation of mitigation fees to a local, regional or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural conservation easements. The proposed conversion of agricultural land

should be deemed an impact of at least regional significance. Hence the search for replacement lands can be conducted regionally or statewide, and need not be limited strictly to lands within the project's surround area. Mitigation for the loss of Prime Farmland is suggested at a 2:1 ratio due to its importance in the State of California. The use of conservation easements is only one form of mitigation and any other feasible mitigation measures should also be considered. Mitigations for temporary solar projects can also be flexible, especially in cases where there is a reclamation plan in place that requires the land to be returned to an agricultural state.

C. LOCAL

County of Imperial General Plan

Agriculture has been the single most important economic activity throughout the history of Imperial County. The County of Imperial General Plan Agricultural Element demonstrates the long-term commitment by the County to the full promotion, management, use, and development and protection of agricultural production (Imperial County 2015c). The Imperial County Land Use Plan designates all of the solar field site parcels as "Agriculture" (refer to Figure 4.2-1 in Section 4.2, Land Use).

The Imperial County General Plan Agricultural Element provides goals, objectives, policies and/or programs for conserving agricultural lands while minimizing or avoiding conflicts with urban and other land uses. The Agricultural Element's Preface to the Goals and Objectives states that "[These] goals and objectives, therefore are important guidelines for agricultural land use decision making. It is recognized, however, that other social, economic, environmental, and legal considerations are involved in land use decisions and that these goals and objectives, and those of other General Plan Elements, should be used as guidelines but not doctrines" (emphasis added).

The Imperial County General Plan allows the use of agricultural lands for non-agricultural uses in a number of ways. Objective 1.8 of the Agricultural Element allows conversion of agricultural land to non-agricultural uses only where a clear and immediate need can be demonstrated, based on population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses (County of Imperial 2015c, p. 30).

The Agricultural Element's Policy with regard to Preservation of Important Farmland states: "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…." (County of Imperial 2015c, p. 39). The Program associated with this Policy provides for certain findings when land is removed from the Agricultural designation[1].

In 2015, the County adopted the General Plan's Renewable Energy and Transmission Element. The purpose of the Renewable Energy and Transmission Element is to provide a comprehensive document that contains the latest knowledge about the resources, feasible development technology, legal requirements, policies (Federal, State and County), and implementation measures. This Element provides a framework for the review and approval of renewable energy projects in the County. Section I(C) explains that the County adopted the Renewable Energy and Transmission Element after determining that the benefits of Renewable Energy development in Imperial County are:

1. Fiscal benefit of expanded property tax revenues;
2. Fiscal benefit of sales tax revenues from the purchase of equipment, goods and services;
3. Royalty and lease benefits to local landowners and County.

[1] The proposed Project will not remove agricultural land from the Agriculture designation. Instead, the proposed will temporarily convert agricultural land to a non-agricultural use for a fixed period of time as allowed with approval of CUPs.

4. Social and fiscal benefits from increased economic activity and local 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 Renewables Portfolio Standard (RPS); and
8. Minimization of impacts to local communities, agriculture and sensitive environmental resources (County of Imperial 2015b, p. 2).

The Project's consistency with the Renewable Energy and Transmission Element is discussed in Chapter 4.2, Land Use.

Table 4.9-1 provides a consistency analysis of Imperial County General Plan policies relating to agricultural resources applicable to the proposed Full Build-out Scenario and Phased Build-out Scenario. While this EIR analyzes the Project's consistency with the General Plan pursuant to CEQA Guidelines Section 15125(d) and can be used as substantial evidence to support a finding of consistency required under laws other than CEQA, the Imperial County Board of Supervisors ultimately determines on balance whether the Project is consistent overall with the County's General Plan.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
AGRICULTURAL RESOURCES ELEMENT		
Preservation of Important Farmland		
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.	Yes	Based on the LESA model for the overall Project site, the Project is considered to have a potentially significant impact on agricultural resources due to the conversion of Prime Farmland and Farmland of Statewide Importance. The proposed Project would convert 48.3 acres of Prime Farmland and 714.5 acres of Farmland of Statewide Importance (**Table 4.9-4a** thru **Table 4.9-4e** and **Table 4.9-15**). However, mitigation measures MM 4.9.1a and MM 4.9.1b would reduce the impact to farmlands by preserving comparable Prime Farmland and non-Prime Farmlands while mitigation measure MM 4.9.1b directs the Applicant to prepare a Reclamation Plan to restore the affected parcels back to pre-Project soil conditions. Additionally, the Project Development Agreement provides for Agricultural Benefit payments to be paid to the County to be used to enhance and preserve agricultural productivity within the County. Therefore, the proposed Project is consistent with this goal for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Objective 1.1 Maintain existing agricultural land uses outside of urbanizing areas and allow only those land uses in agricultural areas that are compatible with agricultural activities.	Yes	The IID lands on which the proposed Project is planned are designated Agriculture under the General Plan and have corresponding zoning of A-2 - General Agriculture; A-2-R - General Agriculture, Rural Zone; and A-3 - Heavy Agriculture. Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones. In complying with the zoning designations, the Applicant is seeking six Conditional Use Permits (CUPs) for the Project, as well as a height Variance and a Zone Change to the RE Overlay Zone. The proposed Project would not remove land from the Agricultural designation of the General Plan or seek a change to the underlying zoning designation. The Project site is located in an area where the County has allowed a number of similar solar energy facility uses in the immediate vicinity, and as such would minimize impacts to other sites in agricultural use around the County. Mitigation measure MM 4.9.1b directs the Applicant to prepare a Reclamation Plan to restore the affected parcels back to pre-Project soil conditions. In addition, the Project Development Agreement provides for Agricultural Benefit payments to be paid to the County to be used to enhance and preserve agricultural productivity within the County. Refer also to Section 4.2, Land Use for additional discussion of the Project's consistency with existing land uses and land use regulations. The proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Objective 1.3 Conserve Important Farmland for continued farm related (non-urban) use and development while ensuring its proper management and use.	Yes	The proposed Project conserves Important Farmland in that it does not change the existing Agricultural land use designation from Agriculture. In addition, mitigation measure MM 4.9.1b requires that the Applicant shall submit to Imperial County a Reclamation Plan to return the site to its current agricultural condition. In this way, the proposed Project ensures the long-term proper management and agricultural use of the affected parcels. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 1.4 Discourage the location of development adjacent to productive agricultural lands.	Yes	Refer to discussion under Agricultural Resources Element Objective 1.1. The proposed Project is considered consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 1.5 Direct development to less valuable farmland (i.e., Unique Farmland and Farmland of Local Importance rather than Prime Farmland or Farmland of Statewide Importance) when conversion of agricultural land is justified.	Yes	The proposed Project would temporarily convert 714.5 acres of Farmland of Statewide Importance and 48.3 acres of Prime Farmland (**Table 4.9-4a** thru **Table 4.9-4e** and **Table 4.9-15**). Solar development is being concentrated in this portion of the County and the Applicant will be required to mitigate temporary loss of agricultural land by entering into a Development Agreement with the County which addresses the requirements of the Guidelines and the County's use of funds provided under those Guidelines. In addition, as required by mitigation measure MM 4.9.1b, the Applicant must prepare, and have approved by the County, a Reclamation Plan prior to the issuance of a grading permit for the Project. The Reclamation Plan must address restoration of the soil to pre-construction conditions as determined in part by the LESA score and provide financial security for that plan. (See Section 2.1.6). Refer to the discussion under Goal 1 and Objective 1.1. Therefore, the proposed Project is consistent with this objective on an overall, long-term basis for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Objective 1.6 Recognize and preserve unincorporated areas of the County, outside of city sphere of influence areas, for irrigation agriculture, livestock production, aquaculture, and other special uses.	Yes	Refer to discussion under Agricultural Resources Element Objectives 1.1 and 1.3. The proposed Project is considered consistent with this objective. The proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 1.8 Allow conversion of agricultural land to non-agricultural uses only where a clear and immediate need can be demonstrated, based on population projections and lack of other available land (including land within incorporated cities) for such non-agricultural uses. Such conversion shall also be allowed only where such uses have been identified for non-agricultural use in a city general plan or the County General Plan, and are supported by a study to show a lack of alternative sites.	Yes	The proposed Project involves the temporary conversion of agricultural land to a solar energy generation facility which is an allowed use on land designated as Agriculture with approval of a CUP. The clear and immediate need for the proposed Project is described in Section 2.1.2 of the Project Description. For example, the proposed Project would provide a new source of renewable energy to assist the State of California in achieving and exceeding the RPS while also expanding the renewable energy sector in the County's economy. The Project would assist with meeting existing demand as well as future electricity demand associated with planned population growth in the County and State. Further, the energy storage component portion of the Project would increase stability of energy supply. As noted above, the Project site is located in an area where similar solar energy facilities are clustered and have been approved by the County. Other off-site alternatives were also considered but rejected as in feasible (Refer to Chapter 5.0 Alternatives). Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Objective 1.9 Preserve major areas of Class II and III soils which are currently nonirrigated but which offer significant potential when water is made available.	Yes	The proposed Solar Field Site Parcels are located on IID-owned land and are served by IID infrastructure and in line with the coordinated land use/water supply strategy. The Project site is currently irrigated and in active agricultural use for flat crops. At the end of the operation of each CUP, the Project is required to be decommissioned and returned to its existing farmland status, during which time the irrigation potential would be preserved. The proposed Project would preserve on-site Class II and III soils, and would not result in a change to other Class II and III soils. Therefore, the Project is considered consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 1.10 Hazard-prone areas such as earthquake faults and aircraft impact zones should remain designated for agricultural uses.	Yes	The Project does not propose to change the zoning of the Project site which will remain zoned for agricultural uses. The Project will also be designed in accordance with applicable standards to reduce seismic damage. No habitable structures are proposed as part of the Project. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 1.11 Control and prevent soil erosion when possible.	Yes	Potential for erosion is typically greatest during construction when soils are disturbed and exposed. The Applicant will implement appropriate fugitive dust control measures consistent with applicable ICAPCD requirements as well as a Construction General Permit and Stormwater Pollution Prevention Plan (Section 4.11, Hydrology and Water Quality), and County site design and retention requirements to control and prevent erosion. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Development Patterns and Locations on Agricultural Land		
Goal 2: Adopt policies that prohibit "leapfrogging" or "checkerboard" patterns of non-agricultural development in agricultural areas and confine future urbanization to adopted Sphere of Influence areas.	Yes	The proposed Project support's the County's position regarding "leapfrogging" and "checkerboard" development patterns. The Project is proposed in an area of the County that currently contains solar development that is outside the Sphere of Influence of County cities. The proposed Project is located away from other non-solar uses and provides for on-site water and sewer infrastructure to serve only that facility; therefore, there will be no new infrastructure which would encourage development of non-solar urban uses. Therefore, the proposed Project is consistent with this goal for both the Full Build-Out Scenario and Phased CUP Scenario. Refer the analysis under Objective 1.1 above and Objective 2.1, below.
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.	Yes	The proposed Project would not isolate or restrict access to surrounding agricultural lands because it is part of a pattern of industrial development in this focused area of the County. The DOC has stated, "[b]ecause the County has concentrated solar facility development in the area, the Project site is almost entirely surrounded by solar facilities in various states of completion. The Department believes that based on the County's decision to focus solar development in the area, which the Department recognizes as an industrial use of the land, the proposed project will not result in discontiguous patterns of urban development" (DOC 2010). Furthermore, the Project is subject to the County's Right to Farm Ordinance to insure that it does not have impacts on any neighboring farm operations. (Refer also to analysis under Goal 6, below) Finally, the Project features include allowing farming to continue in the CUP Areas until there is a need for that particular CUP Area to be developed for solar energy generation. The proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
Objective 2.3 Maintain agricultural lands in parcel size configurations that help assure that viable farming units are retained.	Yes	While the proposed Project would alter the legal boundaries of one parcel, it does so only to make it consistent with the boundaries of parcels that are currently being farmed and does not otherwise change the size of any of the Solar Field Site Parcels proposed for development. The farmed areas and configuration would remain unchanged thereby facilitating reclamation to pre-Project conditions to support farming. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 2.4 Discourage the parcelization of large holdings.	Yes	The proposed Project involves approximately 855 gross acres of land (inclusive of roadways and canals). However the Project does not involve any change in the size of the existing parcels on which the CUPs are proposed. Therefore, the proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Objective 2.6 Discourage the development of new residential or other non-agricultural areas outside of city "spheres of influence" unless designated for non-agricultural use on the County General Plan, or for necessary public facilities.	Yes	Refer to discussion under Goal 1, and Chapter 4.9, Land Use. The proposed Project is consistent with this objective for both the Full Build-Out Scenario and Phased CUP Scenario.
Preservation of Important Farmland Policy		
Policy: The overall economy of Imperial County is expected to be dependent upon the agricultural industry for the foreseeable future. As such, all agricultural land in Imperial	Yes	Refer to discussion under Goal 1, and Objectives 1.1, 1.8 and 2.1. The proposed Project is consistent with this Policy for both the Full Build-Out Scenario and Phased CUP Scenario. Refer also to Chapter 4.9, Land Use.

TABLE 4.9-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives and Policies	Consistent with General Plan?	Analysis
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.		
Agricultural and Non-Agricultural Land Use Relations		
Goal 3: 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.	Yes	Refer to discussion under Goal 1, and Objectives 1.1, 1.8 and 2.1. Refer also to Chapter 4.9, Land Use. The Project will not adversely impact agricultural operations. This analysis includes mitigation measures that will reduce the Project's potentially significant impacts to less than significant levels. The proposed Project is consistent with this goal for both the Full Build-Out Scenario and Phased CUP Scenario.

Imperial County Zoning Ordinance

Imperial County's Zoning Ordinance establishes land use zones and regulations for the use of land and buildings in the unincorporated areas of the County. The Zoning Ordinance is an implementation of the County's General Plan and provides more specific requirements than are provided in the General Plan. As depicted in Figure 4.2-2 in Section 4.2, Land Use, lands on which the Drew Solar Project is proposed are currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural).

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. The solar field site parcels and surrounding properties are currently used for agricultural operations and similar solar energy generating facilities.

County of Imperial Resolution 2012-005

In 2012, the Board of Supervisors adopted Resolution 2012-005 establishing "Guidelines for the Public Benefit Program for Use with Solar Power Plants in Imperial County". The Resolution states that solar energy projects may not create the economic advantages or permanent employment opportunities that other development could offer and that in meeting the state's renewable energy goals, it did not want to accomplish the goal at the expense of its residents because solar power plants commit areas to energy production that may preclude all other potential uses, including agricultural and open spaces uses. The Resolution further states that the Board of Supervisors held public scoping meetings, public hearings and formed a committee that provided input on a Public Benefit Program that was designed to address concerns expressed by the local community and others related to negative effects of these projects, particularly the loss of agricultural jobs. Finally, it found that utility-scale solar developers who voluntarily participated in the Public Benefit Program would "properly address the concerns of the community." The Agricultural Benefit Fee, Community Benefit Fee and Sales Tax Benefits will be confirmed and made enforceable pursuant to a Development Agreement between the County and the Applicant.

Subject to the specific terms of the Development Agreement, and in accordance with Guidelines for the Public Benefit Program for Use with Solar Power Plants in Imperial County, the Applicant shall pay on a per acre basis a separate fee for farmland for each acre temporarily converted: (1) an agricultural benefit fee for prime farmland and as separate fee for of farmland of statewide importance; and (2) a Project land community benefit fee. Such fees shall be no less than those set out in Resolution 2012-05, plus all applicable consumer price index and other increases. There shall be a minimum sales tax guarantee as well.

Development Agreement

The Development Agreement may provide that the Applicant may earn credits against these benefit fees for replacement benefits to the community in the form of local hiring, veteran hiring, contracts with local vendors, payments to scholarship programs, or crop yield enhancement projects, and similar demonstrated community benefits.

Conditions of Approval

Additional fees shall be provided in the Conditions of Approval, including but not limited to an emergency services benefit fee of:

a) Permittee shall pay a fee of $50 per acre per year prior to commencement of the construction period to address the Imperial County Fire/OES expenses for service calls within the Project's Utility/Transmission area. Said amount shall be prorated on a monthly basis for periods of time less than a full year. Permittee shall provide advance, written notice to County Executive Office of the construction schedule and all revisions thereto.

b) Permittee shall pay an annual fee of $20 per acre per year during the post-construction, operational phase of the Project to address the Imperial County Fire/OES expenses for service calls within the Project's Utility/Transmission area. Said fee will be paid to the Fire Department to cover on-going maintenance and operations costs created by the project.

c) (applies to a & b) Costs associated with items two above items shall be annually adjusted on January 1st to add a CPI (Los Angeles) increase. Such costs associated with these items can be readjusted in the County's sole discretion if a new 1service analysis is prepared and that service analysis is approved by both the County and the Permittee.

d) Fiscal impacts will remain open until meeting the department head(s) and developer(s), which may include but not limited to: Capital purchases which may be required to assist in servicing this project; costs for services during construction and life of the project; and training.

Use of Mitigation Fees

Imperial County Resolution 2012-005 requires mitigation fees be allocated for the stewardship, protection and enhancement of agricultural lands within the County:

The Agricultural Business Development Category, such as funding for agricultural commodity processing plants and energy plants that use agricultural products, which was identified as the greatest job creator category would receive 50 percent of the funds.

The Research & Development Category, such as funding for development of new high-yield or water-efficient crops, new water conservation techniques, new technology to improve yields in existing crops, and partial funding for an endowment to support an agricultural research specialist, would receive 20% of the funds. Improved water conservation and efficient crop production keeps more farmland in production during drought cycles therefore supports job creation and maintenance;

The Agricultural Stewardship Category, such as programs that bring fields back into production, implement soil reclamation, and improve existing fields to improve crop yields, would receive 20%. Increase production of crops again leads to more agricultural jobs to prepare and harvest the fields; and

The Education/Scholarship Category, such as matching funds for scholarships awarded by agricultural organizations for agricultural studies, student loans, Future Farmers of America and 4-H loans, would receive 10 percent. Training the next generation of farmers to continue and expand farming operations will also support agricultural job creation.

County of Imperial Williamson Act Rules and Procedures

In 2000, the Imperial County Board of Supervisors adopted the Williamson Act and the provisions established by California Revenue and Taxation Code Section 423.3. The Board of Supervisors also adopted Resolution 200-084, which established the County of Imperial Rules of Procedure to Implement the California Land Conservation Act of 1965 (Rules). The Rules set forth eligibility criteria and standards for the establishment of an agricultural preserve, expansion of an agricultural preserve, and removal of land from an agricultural preserve. The Rules also establish requirements for Land Conservation Contracts and local monitoring requirements.

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

Effective January 01, 2011 non-renewal was filed either by the landowner or the County for all Williamson Act contracts in Imperial County (DOC 2016a).

4.9.2 ENVIRONMENTAL SETTING

A. REGIONAL SETTING

Imperial County covers an area of 4,597 square miles or 2,942,080 acres. Agricultural production has been the major economic industry in Imperial County since the 1900s. Several factors including climate, fertile soils, and the irrigation water have led to Imperial County's agricultural productivity. Imperial County also has come to be recognized as a significant area for development of alternative energy facilities, including solar, wind and geothermal energy. For the same reasons that support agriculture (sun almost 365 days/year) solar energy development has increased at the same time as there have been economic challenges to agricultural production and changes in water availability and cost.

Several factors have significantly altered the agricultural conditions in the County. In the past several years, there has been an increase in utility scale solar development in the County driven by California's RPS. Established in 2002 under Senate Bill 1078, accelerated in 2006 under Senate Bill 107, expanded in 2011 under Senate Bill 2(1x), and enhanced in 2015 by Senate Bill 350, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, publicly owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030 (CPUC 2018). The County has allowed solar development to become part of the Imperial Valley landscape.

B. PROJECT SITE

The Project site is approximately 844.2 gross-acres (855 gross acres when parcel map records) and 762.8 net farmable-acres and is comprised of six parcels: Assessor's Parcel Numbers 052-170-031, 052-170-032, 052-170- 037, 052-170-039, 052-170-056, and 052-170-067. The Project site is bounded by Kubler Road to the north, Westside Main Canal and Wormwood Canal to the west, State Route 98 (SR 98) to the south, and Pulliam Road to the east. Agricultural uses are located on the Project site and properties to the north, west, and southwest. Solar generation facilities are located on properties to the east and south of the Project site.

According to the LESA Analysis prepared for the Project, the Project site has historically been, and is currently used, for agricultural production. Crops grown on the Project site during the last three years include Bermuda grass, Alfalfa (*Medicago sativa*), kleingrass (*Panicum coloratum*), Wheat, and Sudangrass. The site is currently used for production of Bermuda grass (RECON 2018c).

Important Farmlands

Farmland Mapping and Monitoring Program (FMMP)

The DOC Farmland Mapping and Monitoring Program (FMMP) produces Important Farmland Maps which document resource quality and land use information. USDA Soil Survey information and the corresponding Important Farmland candidacy recommendations are used for assessing local land.

The FMMP is intended to assist decision-makers in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. According to the 2016 FMMP Map of Imperial County Important Farmland, the Project site contains land designated as Prime Farmland and Farmland of Statewide Importance. The DOC definitions of each Important Farmland category (as noted on the 2016 FMMP Map of Imperial County Important Farmland) are provided below along with the CUP areas that contain these various categories.

Prime Farmland

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 four years prior to the mapping date. The Project site includes 48.3 acres of Prime Farmland (refer to **Table 4.9-4a** thru **Table 4.9-4e**, below).

Farmland of Statewide Importance

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 four years prior to the mapping date. The Project site includes 714.5 acres of Farmland of Statewide Importance (refer to **Table 4.9-4a** thru **Table 4.9-4e**, below).

Unique Farmland

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 non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date. The Project site does not include areas designated as Unique Farmland.

Farmland of Local Importance

Farmland of Local Importance consists of unirrigated and uncultivated lands with prime and statewide soils. The Project site does not include areas designated as Farmland of Local Importance.

Urban and Built-Up Land

Urban and Built-up Land is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, and water control structures. The Project site does not include areas designated as Urban and Built-Up Land.

Other Land

Other Land is land not included in any other mapping category. Common examples include low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as other land. The Project site or does not include areas designated as Other Land.

Imperial County Important Farmlands and Conversion of Farmlands

Table 4.9-2 depicts the conversions of agricultural land to non-agricultural uses within Imperial County from 2014-2016. As depicted in this table, the 2016 inventory of important farmlands included 190,589 acres of Prime Farmland, 297,558 acres of Statewide Importance, 1,971 of Unique Farmland, and 40,403 acres of Farmland of Local Importance (DOC 2016b).

TABLE 4.9-2
IMPERIAL COUNTY CHANGE IN AGRICULTURAL LAND USE SUMMARY (2014 – 2016)

Land Use Category	Total Acreage Inventoried		2014 - 2016 Acreage Conversion			
	2014	2016	Lost (-)	Gained (+)	Total Acreage Changed	Net Acreage Changed
Prime Farmland	190,589	190,205	714	330	1,044	-384
Farmland of Statewide Importance	297,558	297,272	1,143	857	2,000	-286
Unique Farmland	1,971	2,070	18	117	135	99
Farmland of Local Importance	40,403	38,924	2,682	1,203	3,885	-1,479
Important Farmland Subtotal	**530,521**	**528,471**	**4,557**	**2,507**	**7,064**	**-2,050**
Grazing Land	0	0	0	0	0	0
Agricultural Land Subtotal	530,521	528,471	4,557	2,507	7,064	-2,050
Urban and Built-Up Land	35,590	37,413	173	1,996	2,169	1,823
Other Land	461,665	461,892	260	487	747	227
Water Area	749	749	0	0	0	0
Total Area Inventoried	**1,028,525**	**1,028,525**	**4,990**	**4,990**	**9,980**	**0**

Source: DOC 2016b.

As shown in **Table 4.9-2**, there was a net loss of 2,050 acres of Important Farmlands in Imperial County from 2014-2016. Farmland conversions occurred for a variety of reasons, including conversion to solar uses, fallowing of lands resulting in a conversion to a non-irrigated classification, and expansion of urban development. The trend in the conversion of agricultural land is expected to continue due to development pressure and other factors (DOC 2016b).

C. SOLAR ENERGY GENERATION COMPONENT AND ENERGY STORAGE COMPONENT

Existing Uses

The Project site (inclusive of the Solar Energy Generation Component and Energy Storage Component) consist of 762.8 acres of farmland that comprise the Full Build-out Scenario and Phased CUP Scenario (CUPs 17-0031, 17-0032, 17-0033, 17-0034, 17-0035 and 18-0001) proposed as part of the Phased CUP Scenario. These fields are currently in agricultural production.

Important Farmland Categories

Full Build-out Scenario

Figure 4.9-1 depicts the Important Farmlands Classifications on the Project site. **Table 4.9-3** summarizes the total important farmland acreage within the Project site under the Full Build-out Scenario. As shown, the majority of the land within the Project site is designated Farmland of Statewide Importance (714.5 acres) and a portion is designated as Prime Farmland (48.3 acres).

TABLE 4.9-3
SUMMARY OF IMPORTANT FARMLAND PROJECT SITE /ALL CUPS

FMMP Category	Total Acres	Percent Total
Prime Farmland	48.3	6.3%
Farmland of Statewide Importance	714.5	93.7

Total	**762.8**	**100%**

Source: RECON 2018c.

Phased CUP Scenario

Table 4.9-4a thru **Table 4.9-4f**, below, provide the approximate acreages of Important Farmland Classifications on each CUP area.

CUP#17-0031 / Phase 1

Table 4.9-4a summarizes the important farmland acreage within CUP#17-0031. As shown, the majority of the land within CUP#17-0031 is designated Farmland of Statewide Importance (152.8 acres). The remainder of CUP#17-0031 is designated as Prime Farmland (2.7 acres).

TABLE 4.9-4A
IMPORTANT FARMLANDS ON CUP#17-0031

Agriculture Classification	Approximate Acreage on CUP Area
Prime Farmland	2.7
Farmland of Local Importance	0.0
Farmland of Statewide Importance	155.2
Unique Farmland	0.0
Subtotal Important Farmlands	*157.9*
Other Land	0.0
Total	**157.9**

Source: RECON 2018c.

CUP#17-0032 / Phase 2

Table 4.9-4b summarizes the important farmland acreage within CUP#17-0032. As shown, all of the land within CUP#17-0032 is designated Farmland of Statewide Importance (161.3 acres).

TABLE 4.9-4B
IMPORTANT FARMLANDS ON CUP#17-0032

Agriculture Classification	Approximate Acreage on CUP Area
Prime Farmland	0.0
Farmland of Local Importance	0.0
Farmland of Statewide Importance	158.6
Unique Farmland	0.0
Subtotal Important Farmlands	*158.6*
Other Land	0.0
Total	**158.6**

Source: RECON 2018c.

CUP#17-0033 / Phase 3

Table 4.9-4c summarizes the important farmland acreage within CUP#17-0033. As shown, all of the land within CUP#17-0033 is designated Farmland of Statewide Importance (154.9 acres).

TABLE 4.9-4C
IMPORTANT FARMLANDS ON CUP#17-0033

Agriculture Classification	Approximate Acreage on CUP Area
Prime Farmland	0.0

Farmland of Local Importance	0.0
Farmland of Statewide Importance	152.2
Unique Farmland	0.0
Subtotal Important Farmlands	*152.2*
Other Land	0.0
Total	**152.2**

Source: RECON 2018c.

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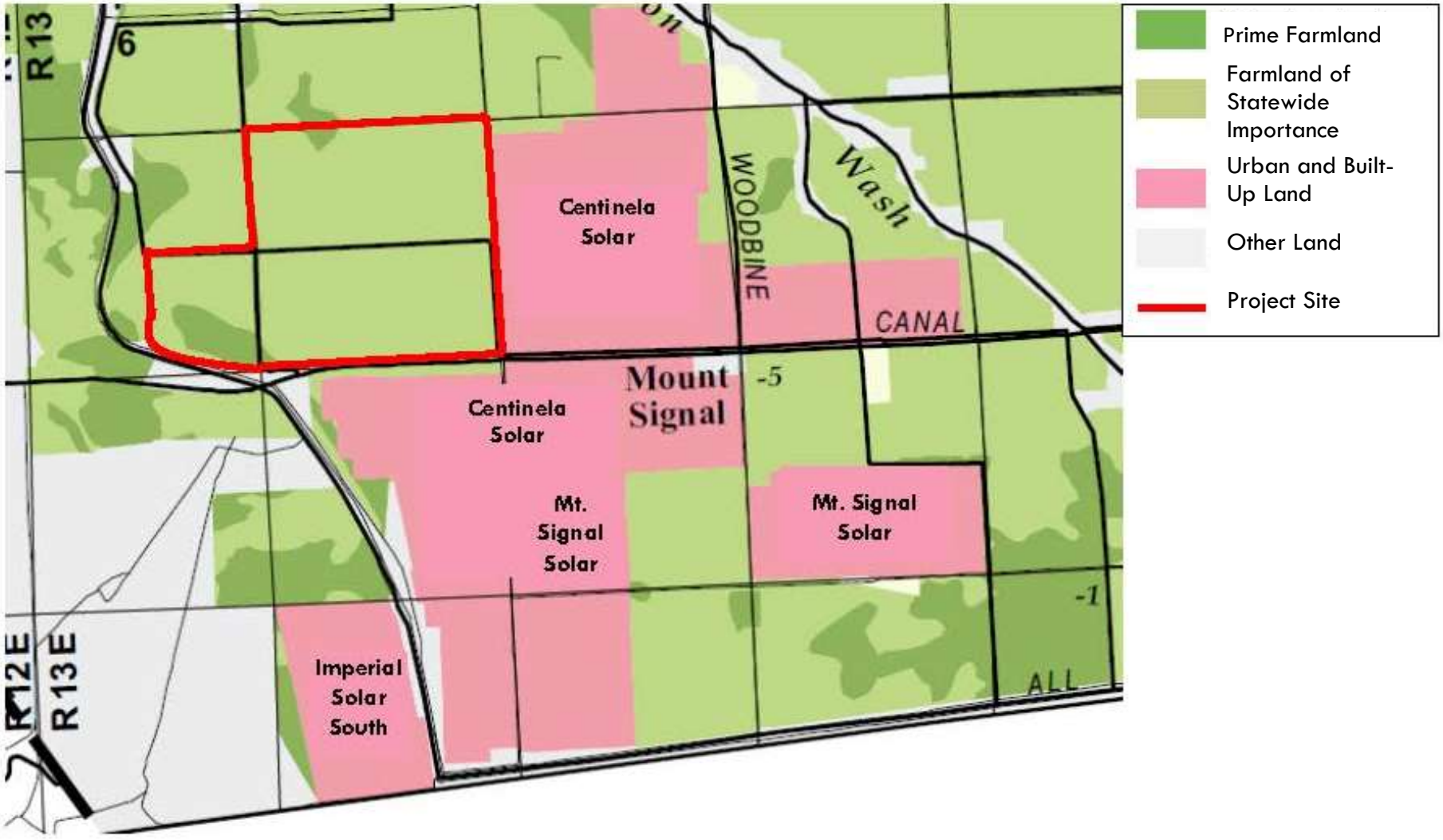


Source: DOC 2017.

FIGURE 4.9-1
MAP OF IMPORTANT FARMLAND

CUP#17-0034 / Phase 4

Table 4.9-4d summarizes the important farmland acreage within CUP#17-0034. As shown, the majority of the land within CUP#17-0034 is designated Farmland of Statewide Importance (151.9 acres). The remainder of CUP#17-0034 is designated as Prime Farmland (6.1 acres).

TABLE 4.9-4D
IMPORTANT FARMLANDS ON CUP#17-0034

Agriculture Classification	Approximate Acreage on CUP Area
Prime Farmland	6.1
Farmland of Local Importance	0.0
Farmland of Statewide Importance	151.0
Unique Farmland	0.0
Subtotal Important Farmlands	*157.1*
Other Land	0.0
Total	**157.1**

Source: RECON 2018c.

CUP#17-0035 and CUP#18-0001 / Phase 5

Table 4.9-4e summarizes the important farmland acreage within CUP#17-0035 and CUP#18-0001 (Phase 5 CUPs). As shown, the majority of the land within the Phase 5 CUPs is designated Farmland of Statewide Importance (93.7 acres). The remainder the land within the Phase 5 CUPs is designated as Prime Farmland (39.5 acres).

TABLE 4.9-4E
IMPORTANT FARMLANDS ON CUP#17-0035 AND CUP#18-0001

Agriculture Classification	Approximate Acreage on CUP Area
Prime Farmland	39.5
Farmland of Local Importance	0.0
Farmland of Statewide Importance	97.5
Unique Farmland	0.0
Subtotal Important Farmlands	*137.0*
Other Land	0.0
Total	**137.0**

Source: RECON 2018c.

Agricultural Soils Classifications

United States Department of Agriculture Soil Survey

The United States Department of Agriculture (USDA) conducted a Soil Survey for the Imperial Valley Area and published maps and guidelines to define the condition and location of various kinds of soils in the region (USDA 1981). These classes are identified in **Table 4.9-5.**

TABLE 4.9-5
SOIL CAPABILITY CLASSES - CLASS DESCRIPTION

Class	Description
I	Soils have few limitations that restrict their use.
II	Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
III	Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
IV	Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
V	Soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture or range, woodland, or wildlife habitat.
VI	Soils have severe limitations that make them generally unsuited to cultivation and limit their use mainly to pasture, range, forestland, or wildlife food and cover.
VII	Soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
VIII	Soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for aesthetic purposes.

Source: USDA 1981.

Land Evaluation and Site Assessment Evaluation

The Project site was evaluated using the California LESA Model to rate the quality and availability of agricultural resources on the Project site. Due to a history of soil compaction, the existing utility roads within the Project site are not suitable for future agricultural production. Consequently, the Land Evaluation (LE) and Site Assessment analyses exclude the existing utility roads and focus on the 762.8 net farmable-acres within the Project site (RECON 2018).

Land Evaluation Modeling

Land Capability Classification

The Land Capability Classification (LCC) Rating indicates the suitability of soils for most kinds of crops. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receiving the highest rating. Class I soils have no significant limitation for raising crops. Classes VI through VIII have severe limitations, limiting or precluding their use for agriculture. Capability subclasses are also assigned by adding a small letter to the class designation. Capability subclasses include the letters "e," "w," "s," or "c." The letter "e" shows that the main limitation is risk of erosion. The letter "w" indicates that water in or on the soil interferes with plant growth or cultivation. The letter "s" indicates that the soil is limited mainly because it is shallow, droughty, or stony. Finally, the letter "c" is used only in some parts of the United States where cold or dry climates are a concern. Groupings are made according to the limitation of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture (RECON 2018).

Storie Index

The Storie Index provides another mechanism for rating soils. Under the Storie Index, a numerical system is used to convey 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 these characteristics directly relate to the adequacy of a soil type for use in crop cultivation. The Storie Index does not consider other factors, such as the availability of water for irrigation, climate, and the distance from markets. Values of the index range from 1 to 100 and are

divided into six grades. An index of 100 and a grade of 1 is considered the most suitable farmland. Soils that have a Storie rank of 10 or below are considered to have a very low agricultural potential. Soils are considered to be prime for high quality agricultural production if their Storie Index Rating is 80 or greater. In the Imperial Valley region, the Storie Index ratings of soils range from 5 to 97. **Table 4.9-6** identifies the Storie Index classifications.

TABLE 4.9-6
STORIE INDEX RATINGS - GRADE INDEX RATING DESCRIPTION

Grade	Index Rating	Description
1	80 to 100	Few or no limitations that restrict use for crops. Excellent or well suited to general intensive farming.
2	60 to 80	Good or also well suited to general farming.
3	40 to 60	Fairly well suited to general farming.
4	20 to 40	Poorly suited to general farming.
5	10 to 20	Very poorly suited to general farming.
6	Less than 10	Not suitable for farming.

Source: USDA 1981.

On-Site Soils

Review of the U.S. Department of Agriculture Soil Survey data identified five soil types on the Project site. **Table 4.9-7** shows the calculations for the Project site's LCC and Storie Index scores, which together constitute the Project site's Land Evaluation (LE) scores. All of the Project site soils have the capability subclass "w" indicating water in or on the soil that interferes with plant growth or cultivation. Refer to Figure 4.6-3 "Soil Map" in Section 4.6 for a graphical representation of the distribution of these five soil types on the Project site.

TABLE 4.9-7
LAND CAPABILITY CLASSIFICATION AND STORIE INDEX SCORE

Soil Map Unit	Net Farmable Acres	Proportion of Project Area (Percent)	LCC	LCC Rating	LCC Score	Storie Index	Storie Index Score
Holtville Silty Clay, Wet	5.8	0.8	IIw	80	0.6	30	0.2
Imperial Silty Clay, Wet	409.9	53.7	IIIw	60	32.2	22	11.8
Imperial-Glenbar Silty Clay Loams, Wet, 0 to 2 Percent Slopes	298.6	39.1	IIIw	60	23.5	34	13.3
Meloland Very Fine Sandy Loam, Wet	42.4	5.6	IIIw	60	3.3	36	2.0
Rositas Fine Sand, Wet, 0 to 2 Percent Slopes	6.0	0.8	IIIw	60	0.4	43	0.3
Total	762.8	100.0	--	**LCC Total**	60.1	**Storie Index Total**	27.7

Source: RECON 2018c.
NOTE: Totals may vary due to independent rounding.
LCC = Land Capability Classification

Site Assessment

The California LESA Model includes four Site Assessment (SA) factors that are separately rated and include the following:

- Project Size Rating;
- Water Resources Availability Rating;
- Surrounding Agricultural Land Rating; and
- Surrounding Protected Resource Land Rating (California Department of Conservation 1997)

Project Size Rating

The Project Size Rating is utilized to recognize the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions, and can benefit from certain economies of scale for equipment and infrastructure. Additionally, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon supporting industries and food processing industries (RECON 2018c).

The Project Size Rating considers both the total acreage of land and the different quality of land that comprise the operation when evaluating agricultural productivity. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide greater economic return per unit acre. **Table 4.9-8** shows the Project Size Rating Scores the LESA Model assigns projects based on the acreage and LCC rating of soils within a Project site. As shown, the Project Size Rating divides a Project site into three acreage groupings based upon the LCC ratings that were previously determined in the LE analysis. Under the Project Size Rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size Score. Alternatively, a maximum score on lesser quality soils could also achieve a maximum Project Size Score.

TABLE 4.9-8
PROJECT SIZE RATING SCORE

LCC Class I or II Soils		LCC Class III Soils		LCC Class IV or Lower Soils	
Acres	**Score**	**Acres**	**Score**	**Acres**	**Score**
80 or Above	100	160 or Above	100	320 or Above	100
60 to 79	90	120 to 159	90	240 to 319	80
40 to 59	80	80 to 119	80	160 to 239	60
20 to 39	50	60 to 79	70	100 to 159	40
10 to 19	30	40 to 59	60	40 to 99	20
Fewer than 10	0	20 to 39	30	Fewer than 40	0
--	--	10 to 19	10	--	--
--	--	Fewer than 10	0	--	--

Source: RECON 2018c.

As shown in **Table 4.9-9**, the Project site is assigned the maximum Project Size Score of 100 because it includes over 160 acres of soils with an LCC rating of IIIw (RECON 2018c).

TABLE 4.9-9
PROJECT SIZE SCORE

Soil Type	LCC Class I-II	LCC Class III	LLC Class IV-VIII
Holtville Silty Clay, Wet	5.8	--	--
Imperial Silty Clay, Wet	--	409.9	--
Imperial-Glenbar Silty Clay Loams, Wet, 0 to 2 Percent Slopes	--	298.6	--
Meloland Very Fine Sandy Loam, Wet	--	42.4	--
Rositas Fine Sand, Wet, 0 to 2 Percent Slopes	--	6.0	--
Total Acres	5.8	757.0	--
Project Size Scores	0	100	0
Highest Project Size Score	--	100	--

Source: RECON 2018c. NOTE: Totals may vary due to independent rounding. LCC = Land Capability Classification

Water Resources Availability Rating

The Water Resource Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought.

Agricultural production on the Project site is irrigated entirely by irrigation water provided by IID, reflecting a high reliability of IID to deliver water during drought and non-drought years. Further, current agricultural production on the Project site has no physical or economic restrictions that could reduce the availability of water resource supply during either drought or non-drought years. As shown in **Table 4.9-10**, the Project site therefore is assigned the maximum Water Resources Availability Score of 100 (RECON 2018a).

TABLE 4.9-10
WATER RESOURCES AVAILABILITY SCORE

Project Portion	Water Source	Proportion of Project site	Water Availability Score	Weighted Water Availability Score
1	Imperial Irrigation District Irrigation Water	100 Percent	320 or Above	100
			Total Water Resources Score	**100**

Source: RECON 2018c.

Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating provides a measurement of how land near a given project, both directly adjoining and within a defined distance away, may both influence and be influenced by the agricultural land use of the subject Project site. The Surrounding Agricultural Land Rating is based on identification of a Project site's "Zone of Influence" (ZOI), which consists of surrounding parcels located within 0.25 mile from the project's boundary. Parcels that are intersected by the 0.25-mile buffer are included in their entirety. The Project site is then assigned a "Surrounding Agricultural Land" score based upon the percentage of agricultural land in the ZOI. The LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production (RECON 2018c).

Table 4.9-11 shows the Surrounding Agricultural Land Rating Scores the LESA Model assigns projects based on the percentage of surrounding land in agricultural production within the ZOI (RECON 2018c).

TABLE 4.9-11
SURROUNDING AGRICULTURAL LAND RATING SCORES

Percent of Project ZOI in Agricultural Use	Surrounding Agricultural Land Score
90 to 100	100
80 to 89	90
75 to 79	80
70 to 74	70
65 to 69	60
60 to 64	50
55 to 54	40
50 to 54	30
45 to 49	20
40 to 44	10
40<	0

Source: RECON 2018c.

Figure 4.9-2 shows that land within the northern, western, and southwestern portions of the ZOI are currently in agricultural production, which constitutes approximately 55 percent of the ZOI. Because land currently in agricultural production constitutes approximately 55 percent of the ZOI, the Project site is assigned a Surrounding Protected Resource Land Rating score of 40 (RECON 2018c).

Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land, including the following:

- Williamson Act contracted land;
- Publicly owned lands maintained as park, forest, or watershed resources; and
- Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses (RECON 2018c).

Table 4.9-12 shows the Surrounding Protected Resource Land Rating Scores the LESA Model assigns projects based on the percentage of protected resource lands within the ZOI. **Figure 4.9-3** presents the location and acreage of protected land within the ZOI. Approximately 389.6 acres of Williamson Act lands are located within the ZOI, which constitutes approximately 15 percent of the ZOI. Because the percentage of protected land is less than 40 percent of the ZOI, the Project site is assigned a Surrounding Protected Resource Land Rating score of zero.

TABLE 4.9-12
SURROUNDING PROTECTED RESOURCE LAND RATING SCORES

Percent of Project ZOI Defined as Protected	Surrounding Protected Resource Land Score
90 to 100	100
80 to 89	90
75 to 79	80
70 to 74	70
65 to 69	60
60 to 64	50
55 to 54	40
50 to 54	30
45 to 49	20
40 to 44	10
40<	0

Source: RECON 2018c.

D. DREW SWITCHYARD AND GEN-TIE LINES COMPONENT

Existing Uses

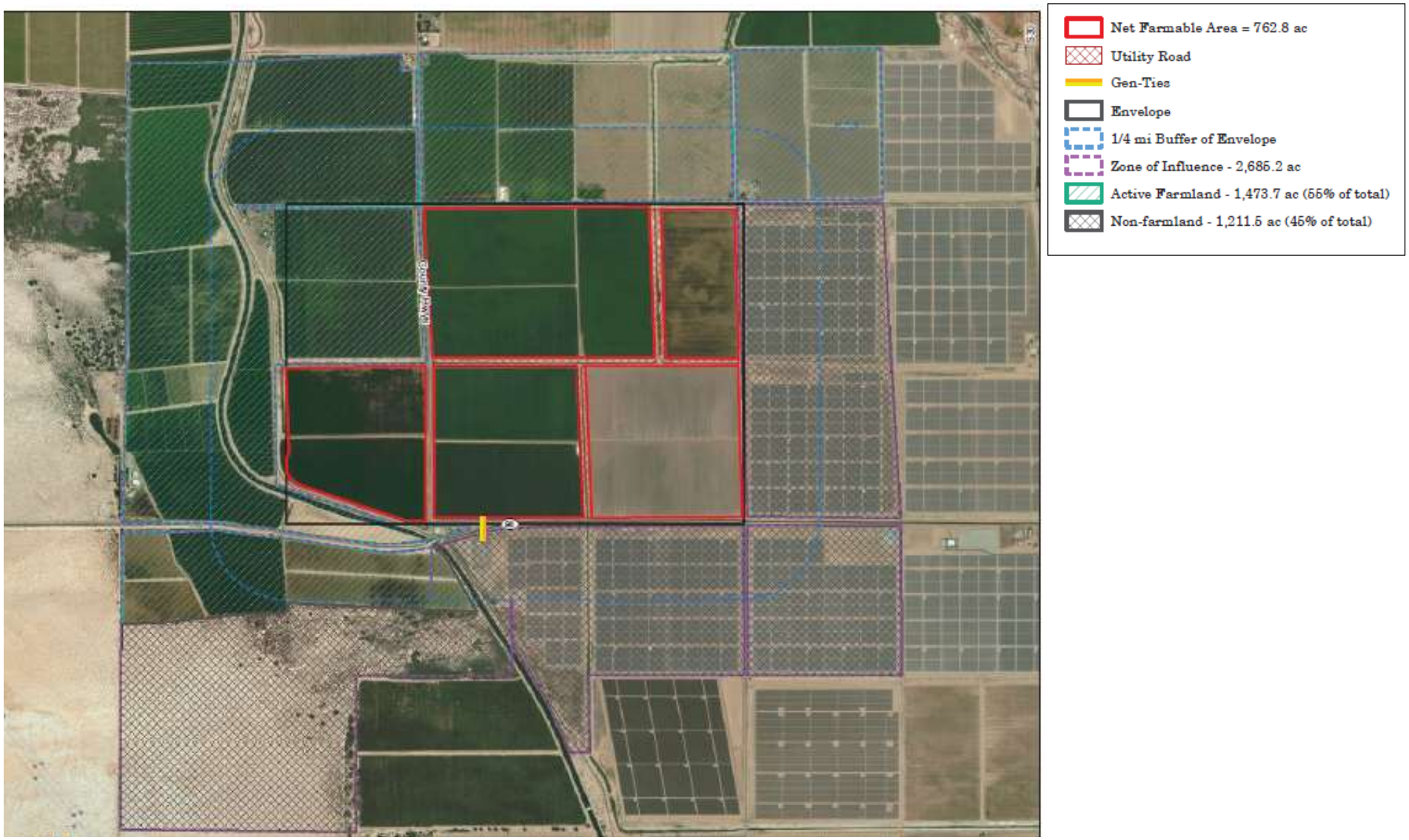
The Drew Switchyard is currently developed as an existing electrical power transmission facility on APN 052-190-039-000 located south of SR 98 across from the proposed Project site (specifically, Phase 1, CUP 17-0031). The Centinela Solar Project currently connects to the Drew Switchyard.

Proposed Uses

This component includes the construction, operation and decommissioning of required improvements at the existing Drew Switchyard facility and supporting transmission and the two Gen-Tie lines extending from the south end of the Project site across SR 98 into the Drew Switchyard located on APN 052-190-039-000-000 in order to accommodate the Project's proposed utilization of the facility. The two Gen-Tie lines are proposed to extend approximately 400 feet south from the Project site across Drew Road and SR 98. One gen-tie is for solar generation and one is for energy storage. Both gen-tie lines may be underground or one may be underground and one above-ground. The Project may bore under SR 98 to connect to the Drew Switchyard or a new pole may be constructed on the existing Centinela Solar Project on APN 052-190-041-000 and its line cutover into the new bay constructed by Drew Solar in the existing Drew Switchyard in order to minimize power line crossings.

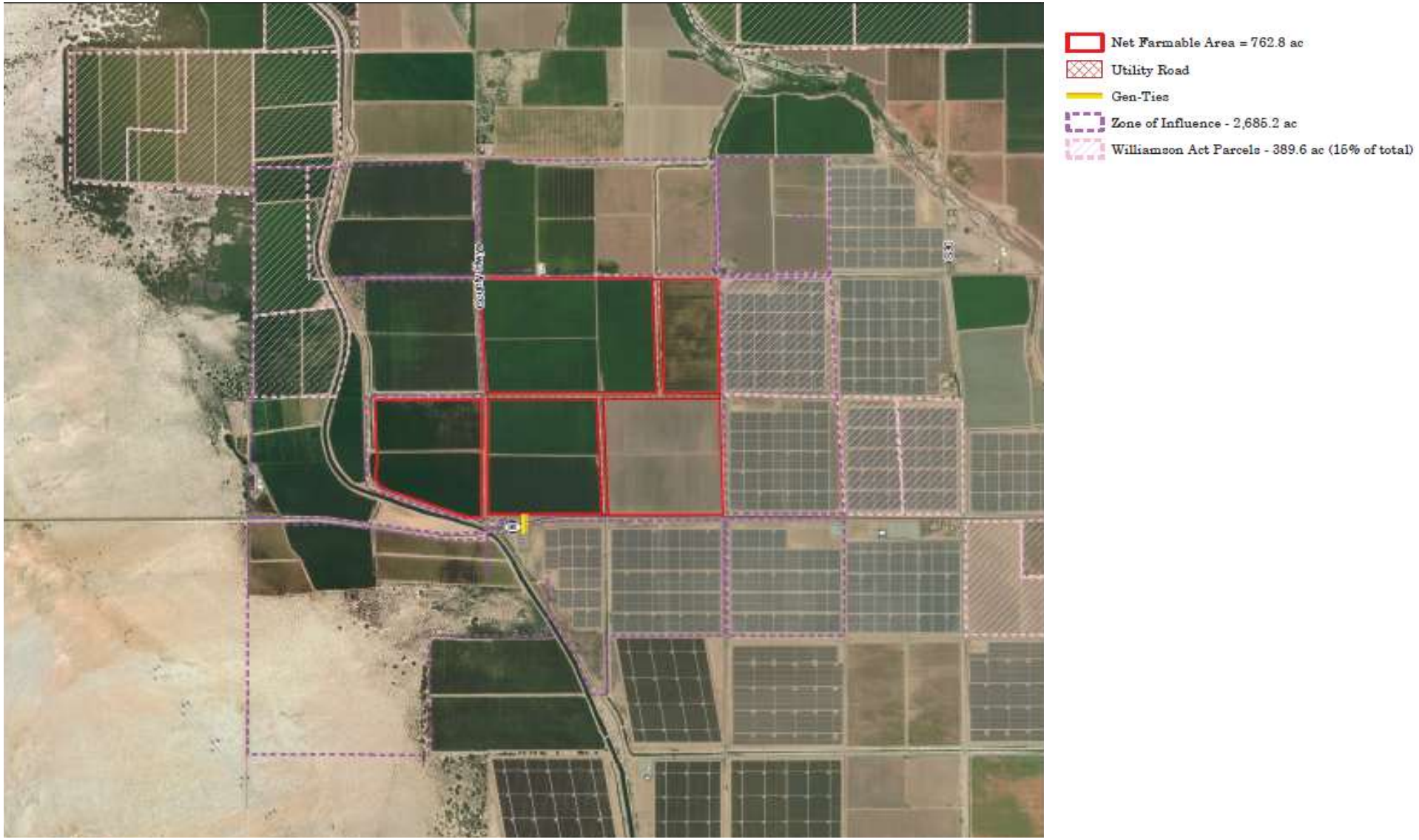
Full Build-out Scenario and Phased CUP Scenario

As shown on **Figure 4.9-1**, the Drew Switchyard Site is classified as "Other Land," and the Centinela Solar Project site is classified as "Urban and Built-up Land" under the DOC's Important Farmlands Classifications. Therefore, conversion of Important Farmland is not an issue under the Drew Switchyard and Gen-Tie Component.



Source: RECON 2018c.

FIGURE 4.9-2
SURROUNDING AGRICULTURAL LAND



Source: RECON 2018c.

FIGURE 4.9-3
SURROUNDING PROTECTED RESOURCE LAND

4.9.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the thresholds identified in the CEQA Guidelines, as listed in Appendix G. The Project would result in a potentially significant impact to agricultural resources if it would result in any of the following:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 511 04(g)).

d) Result in the loss of forest land or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Two CEQA significance criteria were scoped out as part of the Initial Study.

Criterion "c" was scoped out because mixed chaparral, pinyon-juniper habitats, and the montane hardwood-conifer forest are located in restricted areas of the County. Mixed chaparral and pinyon-juniper habitats are located in the extreme southwestern corner of Imperial County; montane hardwood-conifer forest is in the extreme northwestern corner of Imperial County. Thus, there are no existing forest lands, timberlands, or timberlands zoned Timberland Production either on the solar field site parcels or in the immediate vicinity of the Project area that would conflict with existing zoning or cause rezoning. Therefore, no impact is identified for this issue area.

Criterion "d" was scoped out because there are no existing forest lands either on the solar field site parcels or in the immediate vicinity. The proposed Project would not result in the loss of forest land or conversion of forest land to a non-forest use. Therefore, no impact is identified for this issue area.

Subsequent to publication of the Initial Study, an additional criteria was scoped out due to changes in the Project Description and the Regulatory Framework within Imperial County.

Criterion "b" was scoped out because the Applicant removed a component of the Project as originally proposed that would have included a ZC of two parcels to Medium Industrial (M-2), and thereby potentially constitute a significant and unavoidable impact regarding a conflicts with agricultural zoning. The issue of Project consistency with the Land Use Ordinance as a whole (not limited to agricultural zoning) is discussed in Chapter 4.2, Land Use.

Criterion "b" also refers to conflicts with Williamson Act contracts. As discussed above under Regulatory Framework, none of the Project site parcels are currently under Williamson Act contracts, but there are nine parcels within the surrounding vicinity under Williamson Act contracts. However, all of the surrounding land contracts are currently in involuntary non-renewal status, and these contracts, along

with all other Williamson Act contracts in Imperial County, will terminate on or before December 31, 2018 (County of Imperial 2018). Therefore, no impact is identified for this issue area.

C. METHODOLOGY

Baseline conditions described in subsection 4.9.2 have been evaluated with regard to their potential to be affected by Project construction, operation and maintenance, and decommissioning activities. These activities were identified based, in part, on information provided by the Applicant to Imperial County.

As stated in Appendix G of the CEQA Guidelines, the Land Evaluation and Site Assessment (LESA) model is intended to provide lead agencies with an optional methodology to ensure significant effects on the environment of agricultural land conversion are quantitatively and consistently considered in the environmental review process. The model provides an approach for rating the relative quality of land resources using a point-based evaluation composed of six different factors. Land Evaluation factors are based upon measures of soil resource quality including Land Capability Classification (LCC) and Storie Index, while Site Assessment factors are evaluated based on a project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, each of these factors is rated on a 100-point scale. Each factor has a relative weight and are combined to one numeric score that is then evaluated against the scoring thresholds provided in the LESA Model instruction manual. A project's LESA model score is used to make a determination of the potential significance of the conversion of agricultural lands (RECON 2018c).

The Project site was evaluated using the California LESA Model to rate the quality and availability of agricultural resources and to identify whether the project would meet the threshold criteria as having a significant impact to Agricultural Resources under California Environmental Quality Act Guidelines. The LESA Model score will also serve as a benchmark documenting the existing condition of Project site soils at the time of conversion to the proposed solar generation and energy storage facilities. The land must be restored to the same benchmark LESA score as part of the Reclamation Plan (refer to Chapter 2.0, Section 2.1.5F). The LESA Model does not take into account the duration of the Project site's conversion to non-agricultural uses (i.e. temporary) and instead assumes permanent conversion. Therefore, the model provides a worst-case scenario for analysis (RECON 2018c).

Due to a history of soil compaction, the existing utility roads within the Project site are not suitable for future agricultural production. Consequently, the LESA modeling excludes the existing utility roads and are focuses on the 762.8 net farmable-acres within the Project site (RECON 2018c).

D. PROJECT IMPACTS AND MITIGATION MEASURES

Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance

Impact 4.9.1 The proposed Project, whether implemented as the Full Build-out Scenario or six individual CUPs proposed as part of the Phased CUP Scenario, would temporarily convert Prime Farmland and Farmland of Statewide Importance to non-agricultural uses. This is considered a **potentially significant impact**.

FULL BUILDOUT SCENARIO[2]

Construction and Operation

Construction and operation of the proposed Full Build-out Scenario, inclusive of all six CUPs and five phases, would result in the temporary direct conversion of approximately 762.8 acres (48.3 acres of

[2] This analysis is equally applicable to development of the Full Build-out Scenario in either the Near-Term (2019) Scenario or the Long-Term (2027) Scenario.

Prime Farmland and 714.5 acres of Farmland of Statewide Importance) (**Table 4.9-3a**) of agricultural land currently in crop production to a non-agricultural use (RECON 2018c). The impacts are considered temporary because the Solar Energy Center would be removed and the Solar Field Site Parcels returned to agricultural production at the end of the life of the Project CUPs. The right to continue farming will also continue on the agricultural fields until it is necessary to commence construction of each CUP.

As discussed above, a LESA Model analysis was prepared for the Solar Field Site Parcels that comprise the Full Build-out Scenario (**Appendix H** of this EIR). **Table 4.9-13** presents a summary of the LESA Model for the Full Build-out Scenario. As shown, the LE sub-score is 21.9, while the SA sub-score is 36.0, resulting in a final LESA score of 57.90. As shown in **Table 4.9-14**, a final LESA score between 40 to 59 points is considered significant if both the LE and SA sub-scores are greater than or equal to 20 points. Because both sub-scores (LE and SA) are greater than 20, the Project is considered to have a **potentially significant impact** for conversion of Prime Farmland, and Farmland of Statewide Importance (RECON 2018c) for the Full Build-out Scenario. However, there is no methodology to adjust the LESA score for a temporary conversion. Therefore, the LESA score is used for the purpose of documenting the existing conditions of on-site soils for the purposes of the Reclamation Plan.

TABLE 4.9-13
FINAL LESA SCORE SHEET SUMMARY FOR THE FULL BUILD-OUT SCENARIO

Factor Name	Factor Score (0 – 100 Points)	Factor Weighting (Total = 1.00)	Weighted Factor Score
Land Evaluation (LE)			
1. Land Capability Classification (LCC Rating)	60.1	0.25	15.0
2. Storie Index Rating	27.7	0.25	6.9
		Land Evaluation Sub-score	*21.9*
Site Assessment (SA)			
1. Project Size Rating	100	0.15	15.0
2. Water Resource Availability Rating	100	0.15	15.0
3. Surrounding Agricultural Lands Rating	40	0.15	6.0
4. Surrounding Protected Resource Lands Rating	0	0.05	0
		Site Assessment Sub-score	*36.0*
		TOTAL	**57.9**

Source: RECON 2018c.

TABLE 4.9-14
CALIFORNIA LAND EVALUATION AND SITE ASSESSMENT MODEL SCORING THRESHOLDS

Total Land Evaluation and Site Assessment Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either Land Evaluation or Site Assessment subscore is less than 20 points
80 to 100 Points	Considered Significant

Source: RECON 2018c.

The portion of the Project on lands associated with the Gen-Tie transmission line are not expected to permanently remove adjacent agricultural land from production because these lands have been previously converted by construction of the Drew Switchyard and Centinela Solar Project. They are part of the existing condition and were not considered in the LESA analysis. As such, the portion of the Project on lands associated with the Gen-Tie transmission line are not expected to permanently remove adjacent agricultural land from agricultural production and **no impact** is anticipated.

PHASED-CUP SCENARIO

Whether buildout associated with the Project occurs at one time (Full Build-out Scenario) or in phases (Phased CUP Scenario) as anticipated, the Project site (all CUP areas) would be temporarily converted from an agricultural use to a non-agricultural use. **Table 4.9-15** shows a summary of this conversion by CUP area and Project Phase.

TABLE 4.9-15
SUMMARY OF IMPORTANT FARMLAND BY PROJECT PHASE / CUP AREA

FMMP Category	Phase 1 Acres	Phase 2 Acres	Phase 3 Acres	Phase 4 Acres	Phase 5 Acres	Total Acres	Percent Total
Prime	2.7	0.0	0.0	6.1	39.5	48.3	6.3%
Statewide	155.2	158.6	152.2	151.0	97.5	714.5	93.7
Total	**157.9**	**158.6**	**152.2**	**157.1**	**137.0**	**762.8**	**100%**

Source: RECON 2018d.

Based on the LESA model for the overall Project site / Full Build-out Scenario (refer to discussion above and **Table 4.9-11**), the Project is considered to have a potentially significant impact on agricultural resources. As such, a separate model by CUP would not change the outcome of the overall Project LESA analysis (Larkin 2018). Therefore, development of the CUP areas would result in a **potentially significant impact** with regard to conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance under CEQA for the Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the 30-year operational life of the Project's CUPs, the facilities in each of the CUP Areas would be disassembled and removed; the soil would be reclaimed to agricultural land in accordance with the provisions of the Reclamation Plan (i.e. LESA score of 57.9) as required and financially assured by mitigation measure MM 4.9.1b. As a result, decommissioning impacts associated with conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance would be considered **less than significant** following completion of decommissioning and reclamation

The decommissioning process for the Gen-Tie line is not anticipated to disturb additional agricultural land as it will occur within the solar field site parcels, existing Drew Switchyard site, and possibly on the existing Centinela Solar site. Therefore, any disturbance would occur within areas already covered as part of the required Reclamation Plan for the respective project (i.e. Drew Solar or Centinela Solar).

Mitigation Measures

MM 4.9.1a Payment of Agricultural and Other Benefit Fees

One of the following options included below shall be implemented prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project:

For Non-Prime Farmland:

- **Option 1**: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis on land of equal size, of equal quality of farmland, outside the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits;

- **Option 2**: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the total acres of 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**: 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 the Development Agreement, including addressing the mitigation of agricultural job loss on the local economy.

For Prime Farmland:

- **Option 1**: The Permittee shall procure Agricultural Conservation Easements on a "2 to 1" basis on land of equal size, of equal quality farmland, outside of the path of development. The Conservation Easements shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits; or

- **Option 2**: 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.

  Option 3: The Permittee and County shall 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 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 local economy for the purpose of off-setting jobs displaced by this Project.

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

Timing/Implementation: *Prior to the issuance of a grading permit or building permit (whichever is issued first).*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

MM 4.9.1b Reclamation/Decommissioning Plan and Security

Prior to the issuance of a grading permit or building permit (whichever is issued first) for the proposed Project, the Permittee shall submit to Imperial County a Reclamation and Decommissioning Plan. The plan shall document the procedures by which each CUP area will be returned to its current agricultural condition/LESA score of 57.9. The Permittee shall also provide financial assurance/bonding in an 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.

Timing/Implementation: *Prior to the issuance of a grading permit or building permit (whichever is issued first).*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

Significance After Mitigation

Implementation of mitigation measure MM 4.9.1a would reduce the impacts related to temporary loss of Prime Farmland and Farmland of Statewide Importance by assuring it is a temporary impact and compensating for socio-economic impacts associated with the conversion of farmland.

The assurance that the impact will be temporary is accomplished through the Permittee's commitment to a reclamation plan and mitigation measure MM 4.9.1b that requires the Permittee restore the site to agricultural use with a soil value equal to the pre-Project condition and back that commitment with financial security. In this case, the LESA model will be used as the performance standard for determining whether the soil has been restored to pre-Project conditions. The assurance that the Project will compensate for socio-economic impacts associated with the conversion of agricultural lands is accomplished through the commitment of the Permittee to pay agricultural benefit fees and community benefit fees in the development agreement.

Implementation of any of the options under mitigation measure MM 4.9.1a, in combination with mitigation measure MM 4.9.1b would reduce the impacts associated with the temporary conversion of farmland, including Prime Farmland and Farmland of Statewide Importance to **less than significant**.

Indirect Environmental Effects of Conversion of Farmland

Impact 4.9.2 The proposed Project would not involve other changes to the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. Nuisance issues such as dust, pests and weeds are already addressed through ICAPCD Rules and County requirements to prepare Weed and Pest Management Plans. Thus, indirect effects of the temporary conversion of farmland are considered **less than significant**.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction and Operation

Agricultural land and other solar generation facilities currently surround all the Project site, and therefore the proposed Project would place a solar energy generation facility in an area currently used for agriculture as well as similar utility-scale solar developments. The Project does not include the extension of sewer and water utilities or road infrastructure that would pressure nearby lands to urbanize with residential, commercial, or other non-solar urban development. Moreover, neither the Full Build-out Scenario nor the Phased CUP Scenario is anticipated to result in a growth-inducing impact that will cause the indirect conversion of farmland on adjoining or nearby properties because the Project's power generation would be used to meet existing and future planned energy demands. Likewise, the proposed Project does not create new energy demand that would cause new development on adjacent properties.

Project implementation would result in emission of fugitive dust and DPM during construction and operational maintenance activities. Compliance with ICAPCD Regulation VIII throughout the Project site and at each CUP area would reduce operational PM_{10} and DPM emissions in accordance with ICAPCD Fugitive Dust Rules (refer to Section 4.4, Air Quality). Imperial County is in a non-attainment area for PM_{10} and for O_3 (8-hour). As discussed in connection with cumulative construction impacts, other cumulative projects in the Salton Sea Air Basin (SSAB) will also be required to comply with the air quality regulations set forth in the Air Quality Management Plan (AQMP), State Implementation Plan (SIP) and ICAPCD Rules, including Regulation VIII, during operations.

Project construction and operation would be subject to compliance with State nuisance law (California Civil Code Sub-Section 3482) that prohibits the Project site from being used in a manner that would allow dust, weeds, or pests to be a nuisance to its neighbors. In addition, the Applicant will be required to develop and implement a Weed and Pest Management Plan.

Therefore, compliance with existing regulations, including ICAPCD Regulation VIII (identified in Section 4.4), and implementation the of the Weed and Pest Management Plan would reduce indirect environmental effects of conversion of farmland during construction and operation to **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's useful life, the Drew Solar Project would be disassembled and reclaimed to pre-Project soil conditions. Similar to construction, reclamation activities could result in an increase in pests, weeds and dust on adjacent lands that could adversely affect agricultural operations and pressure adjacent lands to convert to non-agricultural uses. However, the Project decommissioning and reclamation would be subject to compliance with the same mitigation measures, State air quality and nuisance laws, and Weed and Pest Management Plan as during Project construction. Therefore, indirect environmental effects of conversion of farmland from potential decommissioning nuisances would be considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario. Upon completion of reclamation, the Project site would be reclaimed to agricultural land.

Mitigation Measures

No new mitigation required.

Significance After Mitigation

Not Applicable.

4.9.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for cumulative impacts to agricultural resources is the Imperial Valley located in Imperial County. The Imperial Valley consists of approximately 500,000 acres of more-or-less contiguous farm fields located in the Imperial Valley and surrounded by desert and mountain habitat. The Imperial Valley comprises approximately 17 percent of the County's 2,942,080 acres (Imperial County 2015c, p. 5). Based on the most current available information from the Department of Conservation approximately 528,471 acres of the County are designated as farmland under the FMMP (DOC 2016b). County-wide approximately 22,257 acres of projects are currently proposed, under construction, or have been completed, excluding the proposed Project. **Table 4.9-16** summarizes these projects and the acreage of agricultural land that would temporarily or permanently convert agricultural land associated with each project. Many of these are solar energy generation facilities.

TABLE 4.9-16
SUMMARY OF AGRICULTURAL ACREAGE TEMPORARILY OR PERMANENTLY CONVERTED

Project Name	Acres*
Rancho Los Logos	1,076
McCabe Ranch II	457
McCabe Ranch	80
Imperial Center	78
101 Ranch	1,897
Canergy	83
Chocolate Mountain	320
Imperial Valley Solar II	142
IV Solar Company	123
Midway Solar Farm I	480
Midway Solar Farm II	320
Lindsey Solar Farm	148
Wilkinson Solar Farm	302
Calipat Solar Farm I	159
Alhambra Solar/Solar Gen 2	482
Arkansas Solar/Solar Gen 2	481
Sonora Solar/Solar Gen 2	488
Imperial Solar West (Westside Main)	1,130
Campo Verde	1,443
Imperial Solar South	947
Calexico I-A	720
Calexico I-B	610
Calexico II-A	940
Calexico II-B	525
Mount Signal Solar	1,431
Centinela Solar	2,067

TABLE 4.9-16
SUMMARY OF AGRICULTURAL ACREAGE TEMPORARILY OR PERMANENTLY CONVERTED

Project Name	Acres*
Lyons Solar	138
Rockwood Solar	396
Ferrell Solar	364
Iris Solar Farm	502
Imperial Solar 1 (Heber)	80
Seville Solar (Allegretti)	1,238
Wistaria Ranch Solar	2,661
Total Acres Without Proposed Project	**22,257**
Drew Solar Project**	763
Total Acres With Proposed Project	**23,020**

*Source: ICPDSD 2018b. * Acreage values rounded to the nearest whole. **Net agricultural acreage minus the acreage of roads and ditches currently on each parcel.*

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Agricultural Resources Impacts

Impact 4.9.3 Implementation of the Project under both the Full Build-out Scenario and the Phased CUP Scenario would incrementally add to the temporary conversion of agricultural land in Imperial County. Temporary impacts to agricultural resources are mitigated on a project-by-project basis through payment of in-lieu fees, conservation easements and/or execution of Public Benefit Agreements. Therefore, temporary impacts to agricultural resources are considered **less than cumulatively considerable**.

FULL BUILD-OUT SCENARIO / PHASED CUP SCENARIO

Construction, Operation and Decommissioning

Cumulative impacts on agricultural resources take into account the temporary impacts under the Full Build-out Scenario and by CUP area under the Phased CUP Scenario, as well as those likely to occur as a result of other proposed, approved and reasonably foreseeable projects in the region. To determine cumulative impacts on agricultural resources, the temporal nature of the impacts on individual resources is assessed. Solar developments are considered temporary rather than permanent (such as with residential or industrial development) based on a specified operational life of a solar project identified in its respective CUP and the requirement that the lands on which solar farms are located be restored to pre-Project soil conditions. The inventory of agricultural resources within the cumulative setting is also considered when assessing the impacts of each individual project. This Project serves as infill in an area which already developed with other solar generation facilities.

Of the 855 gross acres that comprise the solar field site parcels, approximately 762.8 net acres (rounded to 763 acres) of agricultural land would be temporarily converted (i.e. agricultural fields within the solar field site parcels minus the acreage of roads and ditches currently on each parcel). Thus, both the Full Build-out Scenario or Phased CUP Scenario would incrementally add to the temporary conversion of agricultural land in Imperial County.

As previously shown in **Table 4.9-2**, above, approximately half of the County's acreage (528,471 acres out of a total of 1,028,525 acres) is Important Farmland (DOC 2016b). **Table 4.9-17** summarizes the

percentage of each type of farmland in the County that would be temporarily converted under both the Full Build-out Scenario and Phased CUP Scenario.

TABLE 4.9-17
PERCENTAGE CONVERSION OF FARMLAND BY THE PROPOSED PROJECT

Agriculture Classification	(A) Total Acreage in Imperial County	(B) Approximate Acreage Converted on Solar Field Site Parcels	(B÷A x 100) Project Percent of County Acreages
Prime Farmland	190,205	48.3	0.025
Farmland of Local Importance	297,272	0.0	0.00
Farmland of Statewide Importance	2,070	714.5	0.345
Unique Farmland	38,924	0.0	0.00
Total Farmland	**528,471**	**762.8**	**0.144**

Source: DOC 2016b, RECON 2018c.

As shown in **Table 4.9-17**, the Important Farmland (Prime Farmland, Farmland of Local Importance, Farmland of Statewide Importance and Unique Farmland) within the Project site comprises approximately 0.144 percent (762.8 acres ÷ 528,471 acres x 100) 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 the Project's operational life stated in the CUP (i.e., 30 years).

As illustrated in **Table 4.9-17** and discussed in Impact 4.9.1, above, construction of the proposed Project would temporarily convert 48.3 acres of Prime Farmland and 714.5 acres of Farmland of Statewide Importance to a non-agricultural use over the operational life of the Project. Mitigation measures are identified to minimize the Project's contribution to the cumulative impact to the temporary conversion of agricultural land. As discussed above, mitigation measure MM 4.9.1a provides for the Applicant and the County to enter into a binding Development Agreement which provides for certain mitigation fees and confirms the use of such fees to mitigate possible or perceived impacts. Mitigation measure MM 4.9.1b requires the Applicant to submit to Imperial County a Reclamation Plan with a financial security mechanism to return the Project site to its current agricultural condition/LESA Score at the end of the operational life of the Project. The implementation of the Reclamation Plan would eventually return the solar field site parcels to farmland.

Table 3.0-1, proposed, approved and reasonably foreseeable projects in the region (refer to Chapter 3.0) includes solar developments, similar to the proposed Project, for consideration in the cumulative analysis. The majority of these projects are located on private lands, which are predominately agricultural, and would have impacts to Important Farmland similar to the proposed Project. When the proposed Project is combined with the cumulative projects (identified in Table 3.0-1 and noted as part of the County-wide solar projects listed in **Table 4.9-16**), the total agricultural land conversion is estimated to be 23,020 acres (inclusive of all Important Farmland acreage and the proposed Project) out of the 528,471 acres of farmland within the County (DOC 2016b). During construction and operation, the Full Build-out Scenario, inclusive of all CUP areas, would contribute approximately 3.3 percent (763 acres ÷ 23,020 acres x 100) of the total temporary agricultural land conversion associated with cumulative solar projects on a County-wide basis. Like the proposed Project, each individual cumulative project would be required to provide mitigation for any impacts to agricultural resources at the project level. Therefore, upon implementation of mitigation measures MM 4.9.1a and MM 4.9.1b, the Project's

incremental contribution to the temporary conversion agricultural land to non-agricultural uses would be **less than cumulatively considerable** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

Mitigation measures will be imposed on the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP #17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario to minimize the Project's contribution to the cumulative impact on temporary conversion of farmland or voluntarily enter an enforceable Development Agreement that assures payment of Agricultural Benefit Fees, as compensation for the perceived socio-economic impacts from the temporary loss of the agricultural resources. Implementation of mitigation measure MM 4.9.1a would reduce the impacts related to temporary loss of Prime Farmland and Farmland of Statewide Importance by assuring it is a temporary impact and compensating for socio-economic impacts associated with the conversion of farmland

Mitigation measure MM 4.9.1b requires preparation of a reclamation plan to be implemented at the end of the Project's useful life. The reclamation plan would identify the process by which the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP #17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario would be returned to a condition that could support agricultural production similar to pre-Project conditions. MM 4.9.1b also requires a funding mechanism for the reclamation plan. Implementation of the reclamation plan would eventually return the solar field site parcels to farmland.

Significance After Mitigation

Implementation of mitigation measures MM 4.9.1a and MM 4.9.1b would reduce the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP #17-0035 and CUP#18-0001) contribution to cumulative temporary conversion of agricultural land to **less than cumulatively considerable.**

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SECTION 4.10

HAZARDS AND HAZARDOUS MATERIALS

4.10 HAZARDS AND HAZARDOUS MATERIALS

This section describes federal, state and local regulations applicable to hazards and hazardous materials. It also describes the environmental setting with regard to potential hazards within the Project area and potential hazards created as a result of implementing the proposed Project. All of the solar field site parcels were addressed as part of the "Phase I Environmental Site Assessment Report Drew Solar Project North of State Route 98 at Drew Road West of Calexico, California" (GS Lyon 2018).

This section describes potential exposure to hazardous materials and/or creation of hazards that could result from implementation of the proposed Drew Solar Project. The discussion focuses on hazardous materials and hazards requiring remediation or mechanisms to prevent accidental release. Measures are identified to reduce or avoid adverse impacts anticipated from construction, operation, and decommissioning of the proposed Project. A discussion of cumulative impacts related to hazards and hazardous materials is also included in this section.

Through the scoping process, the public raised various other concerns regarding potential hazards perceived to be associated with the Project, such as exposure to electromagnetic fields, interference with radio-frequency communications, hazardous shocks, fire hazards (non-wildland/operational), valley fever, and heat island. In accordance with the requirements of CEQA, these concerns are briefly discussed below.

The potential exposure of workers to hazardous materials used at the proposed Project is addressed through mandatory compliance with all applicable codes and requirements regarding worker safety including the Occupational Safety and Health Act. Employers must inform employees of hazards associated with their work and provide those employees with special protective equipment and training to reduce the potential for health impacts from the handling of hazardous materials.

Health risks associated with exposure to diesel particulate matter (DPM) are discussed in Section 4.4, Air Quality. Seismic hazards, exposure to noise, and flood hazards are discussed in Section 4.6, Geology and Soils, Section 4.8, Noise and Section 4.11, Hydrology and Water Quality, respectively. Disposal of solar modules and batteries are discussed in Section 4.13, Public Services and Utilities under subsection 4.13.5, Solid Waste.

While there were no Recognized Environmental Concerns relative to any of the proposed solar field site parcels, the Full Build-out Scenario would represent the worst-case scenario with regard to hazards and hazardous materials because the greatest quantity of hazardous materials associated with construction would be present at one time under this scenario.

4.10.1 REGULATORY FRAMEWORK

A. FEDERAL

Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the United States Environmental Protection Agency (EPA) to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. The 1986 amendments to the RCRA enabled the EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. No items that are considered hazardous were identified on the Project site. Small quantities of hazardous materials will be used and stored on-site during construction.

Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act, as the Clean Water Act (CWA), is a comprehensive statute focused on restoring and maintaining the chemical, physical and biological integrity of the nation's waters. Originally enacted in 1948, the CWA was amended numerous times until it was reorganized and expanded in 1972. It continues to be amended almost on an annual basis.

Primary authority for the implementation and enforcement of the CWA rests with the EPA. The CWA 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 water quality programs. Provisions have also been added to address water quality problems in specific regions and specific waterways. The Project would be subject to the General Permit for Discharges of Storm Water Associated with Construction Activity (NPDES No. CAS000002) (Construction General Permit Order 2010-2014-DWQ effective February 14, 2011) during construction. Operation of the Project would be covered under Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) (NPDES Permit No. CAS000001).

Occupational Safety and Health Act (OSHA)

Congress passed the Occupational Safety and Health Act (OSHA) to assure safe and healthful working conditions for men and women. OSHA authorized enforcement of the standards developed under the CWA and assists states in efforts to assure safe and healthful working conditions. OSHA also provides for research, information, education, and training in the field of occupational safety and health. The Project would be subject to OSHA requirements during construction, operations and maintenance and decommissioning.

Title 14, Part 77 of the Code of Federal Regulation, "Objects Affecting the Navigable Air Space"

The Federal Aviation Administration (FAA) regulates aviation at regional, public, private, and military airports. The FAA requires notification of structures to be constructed in excess of 200 feet in all areas (and, potentially, of structures less than 200 feet, depending on proximity of the proposed structure to public use airports). The U.S. Department of Transportation (DOT) and California Department of Transportation (Caltrans) also require the applicant to submit FAA Form 7460-1, Notice of Proposed Construction or Alteration. Notification allows the FAA to identify potential aeronautical hazards in advance, thus preventing or minimizing any adverse impacts on the safe and efficient use of navigable airspace (49 CFR Part 77.17). Any structure that would constitute a hazard to air navigation, as defined in FAA Part 77, requires issuance of a permit from the Caltrans' Aeronautics Program. If the FAA aeronautical study determines that the structure has no impact on air navigation, a permit is not required.

Part 77, Subpart C, of the Federal Aviation Regulations limits the heights of structures, trees, and other objects in the vicinity of an airport within Compatibility Zones C and D to less than 35 feet above the level of the ground. (Note: Per the Imperial County ALUCP, Compatibility Zone C is located in areas of Common Traffic Pattern with the following impact elements: limited risk – aircraft at or below 1,000 feet AGL; frequent noise intrusion); Compatibility Zone D is located in areas of Other Airport with the following impact elements: negligible risk; potential for annoyance from overflights [Imperial County 1996a, p. 2-17]). Proponents of a project which may exceed a Part 77 limit must notify the FAA as required. Currently, there are no such locations near the existing airports in Imperial County. Proposed

power pole structures could exceed 120 feet in height. The Applicant is currently applying for the applicable height variances in accordance with the County Code. No structures (including Gen-Tie structures) would be more than 180 feet in height. Therefore, because no portion of the proposed Project is located in Compatibility Zones C and D, Part 77 would not apply to the proposed Project.

Title 47, CFR, section 15.2524, Federal Communications Commission (FCC)

Title 47 CFR section 15.2524, Federal Communications Commission (FCC) prohibits operation of devices that can interfere with radio-frequency communication. As part of the design and construction process for the Project, the Applicant will limit the conductor surface electric gradient in accordance with the Institute of Electrical and Electronic Engineers Radio Noise Design Guide.

B. STATE

Title 22 of the California Code of Regulations

Hazardous Materials Defined

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. According to Title 22 of the California Code of Regulations (CCR) section 66260.10, a hazardous material is defined as:

> *…A substance or combination of substances which because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or, (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed*.

This definition includes, but is not limited to, any chemical requiring a Material Safety Data Sheet (MSDS) or a Safety Data Sheet (SDS) per Hazardous Substances defined at Health and Safety Code 25501(q), materials listed in 49 CFR 172, and Hazardous Waste.

Chemical and physical properties that cause a substance to be considered hazardous include the properties of toxicity, ignitability, corrosivity, and reactivity (22 CCR sections 66261.20 through 66261.24). Factors that influence the health effects of exposure to hazardous materials include dosage, frequency, the exposure pathway, and individual susceptibility. The proposed Project would require use of small amounts of hazardous materials (such as diesel fuel, oil and grease for heavy equipment, transformer fluid) during construction, operation and maintenance and decommissioning.

California Environmental Protection Agency

The California Environmental Protection Agency (Cal EPA) and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable state and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Small quantities of hazardous materials would be used and stored at the Project site for miscellaneous, general maintenance activities that would be subject to state and local laws.

Department of Toxic Substances Control

The Department of Toxic Substances Control (DTSC) has primary regulatory responsibility for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL). Enforcement is delegated to local jurisdictions that enter into agreements with DTSC.

California's Secretary of Environmental Protection established a unified hazardous waste and hazardous materials management regulatory program as required by Health and Safety Code Chapter 6.11. The unified program consolidates, coordinates, and makes consistent portions of the following six existing programs:

- Hazardous Waste Generations and Hazardous Waste On-site Treatment
- Underground Storage Tanks
- Hazardous Material Release Response Plans and Inventories
- California Accidental Release Prevention Program
- Aboveground Storage Tanks (spill control and countermeasure plan only)
- Uniform Fire Code Hazardous Material Management Plans and Inventories

The statute requires all counties to apply to the Cal EPA Secretary for the certification of a local unified program agency. Qualified cities are also permitted to apply for certification. The local Certified Unified Program Agency (CUPA) is required to consolidate, coordinate, and make consistent the administrative requirements, permits, fee structures, and inspection and enforcement activities for these six program elements within the county. Most CUPAs have been established as a function of a local environmental health or fire department.

The Office of the State Fire Marshal participates in all levels of the CUPA program including regulatory oversight, CUPA certifications, evaluations of the approved CUPAs, training, and education. The DTSC serves as the CUPA in Imperial County.

Small quantities of hazardous materials would be transported to and from each solar field site parcel and used and stored at the Project site for miscellaneous, general operations and maintenance activities.

California Public Utilities Commission (CPUC), General Order 95 (GO-95), "Rules for Overhead Electric Line Construction"

GO-95 governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements. These standards ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. The proposed Project would be designed in accordance with the GO-95.

California Public Utilities Commission, General Order 52 (GO-52)

GO-52 governs the construction and operation of power and communications lines to prevent or mitigate interference resulting from such lines. The proposed Project would be subject to this order.

California Public Utilities Commission, General Order 131-D, "Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California"

GO-131-D specifies application and noticing requirements for new line construction including electromagnetic field (EMF) reduction. The proposed Project would be subject to this order.

Title 8, California Code of Regulations (CCR) section 2700 et seq. "High Voltage Safety Orders"

Title 8 of the California Code of Regulations specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment. The proposed Project would be subject to Title 8.

National Electrical Safety Code

The National Electrical Safety Code specifies grounding procedures to limit nuisance shocks and specifies minimum conductor ground clearances. The proposed Project would be subject to this code and would be designed with a grounding system providing an adequate path-to-ground to permit the dissipation of current created by lightning and ground faults.

14 California Code of Regulations (CCR), Sections 1250 – 1258, "Fire Prevention Standards for Electric Utilities"

Tile 14 of the CCR, sections 1250 through 1258 provides specific exemptions from electric pole and tower firebreak. Title 14 CCR sections 1250 through 1258 also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects. The proposed Project would be subject to these standards.

C. LOCAL

County of Imperial General Plan

Both natural and man-made hazards are addressed in the Imperial County General Plan. The Seismic and Public Safety Element also contains a set of goals and objectives for land use planning and safety, emergency preparedness, and the control of hazardous materials. The goals and objectives, together with the implementation programs and policies provide direction for development.

Table 4.10-1 analyzes the consistency of the Project with the applicable goal and objectives relating to public safety in the Imperial County 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.

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
SEISMIC AND PUBLIC SAFETY ELEMENT		
Control Hazardous Materials		
Goal 3: Protect the public from exposure to hazardous materials and wastes.	Yes	The County has adopted an Emergency Operations Plan (EOP) and a Fire Prevention and Explosives Ordinance to protect the

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		public from exposure to hazardous materials wastes. The EOP provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental or conflict-related risks that produce situations requiring coordinated response. The County of Imperial Fire Prevention and Explosives Ordinance, Section 53101-53300, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. Such measures in this Ordinance include the following: • Storage of flammable materials • Storage of radioactive materials • Permit required for sale and use of fireworks • Abatement of weeds and other vegetation The proposed Project does not involve exposure of the public to hazardous materials and wastes. Prior to using or storing hazardous materials on the Project site, the Applicant would be required to prepare a Hazardous Material Management Plan or other similar plans for both the Full Build-out Scenario and the Phased CUP Scenario, as applicable. Thus, the proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 3.1 Discourage the transporting of hazardous materials/waste near or through residential areas and critical facilities.	Yes	The Project is in a rural portion of the County with very few residential structures in the area. The Project area does not contain, nor is located near, critical facilities such as a hospital or fire station. Additionally, no schools are located on or adjacent to the solar field site parcels. In addition, large quantities of hazardous

TABLE 4.10-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goal and Objectives	Consistent with General Plan?	Analysis
		materials are not required as part of construction, operations and maintenance, or decommissioning of the proposed Project. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 3.2 Minimize the possibility of hazardous materials/waste spills.	Yes	As noted under the analysis for Goal 3, prior to using or storing hazardous materials on any of the solar field site parcels, the Applicant would prepare a Hazardous Material Management Plan (per Health and Safety Code Sections 25500-25519) or other similar plans, as applicable for the proposed Project. In addition, special training would be implemented to avoid accidental spills during refueling of equipment at the time of construction. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 3.3 Discourage incompatible development adjacent to sites and facilities for the production, storage, disposal, and transport of hazardous materials/waste as identified in the County General Plan and other regulations.	Yes	The solar field site parcels are surrounded by agricultural lands and solar energy facilities similar to the proposed Project. The proposed Project is compatible with surrounding uses and none of the solar field site parcels are adjacent to any hazardous facilities. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

Imperial County Airport Land Use Compatibility Plan

The Imperial County Airport Land Use Compatibility Plan (ALUCP) sets forth the criteria and policies which the Imperial County Airport Land Use Commission (ALUC) uses assessing the compatibility between the principal airports in Imperial County and proposed land use development in the areas surrounding them. The ALUCP primarily deals with review of local general plans, specific plans, zoning ordinances and other land use documents covering broad geographic areas. Certain individual land use development proposals also may be reviewed by the ALUC as provided in the policies identified in the ALUCP. The ALUC does not have authority over existing incompatible land uses or the operation of any

airport. The Project was presented to the ALUC at a meeting on June 24, 2018. The Project was found to be consistent with the ALUCP.

Imperial County Office of Emergency Services – Emergency Operations Plan

The Imperial County Fire Department (ICFD) is the local Office of Emergency Services (OES) in Imperial County. The County Fire Chief is the OES Coordinator. An Assistant OES Coordinator maintains the OES program for the County of Imperial. ICFD acts as the lead agency for the Imperial County Operational Area (OA) and provides leadership in all phases of developing the emergency management organization, including public education, training, emergency operations, interagency coordination, and plan development (Imperial County OES, 2007).

The Imperial County Operational Area Emergency Operations Plan (EOP) provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property. The EOP is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the U.S. Department of Homeland Security National Incident Management System (NIMS) for managing response to multi-agency and multi-jurisdictional emergencies. SEMS/NIMS incorporates the use of the Incident Command System (ICS), mutual aid, the operational area concept, and multi/interagency coordination. The Project site is in Zone 1-B of Fire/Emergency Management/Staging and Shelter Zones in the EOP (Imperial County OES, 2007, p. 73).

County of Imperial Fire Prevention and Explosives Ordinance

The County of Imperial Fire Prevention and Explosives Ordinance, sections 53101-53300, contains provisions for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion. Measures in this Ordinance include the following:

- Storage of flammable materials
- Storage of radioactive materials
- Permit required for sale and use of fireworks
- Abatement of weeds and other vegetation

Weed and vegetation control would be enforced as part of operations and maintenance of the proposed Project.

4.10.2 ENVIRONMENTAL SETTING

A. PROJECT SITE

The proposed Project is located on approximately 855 gross acres (762.8 net acres) of undeveloped agricultural lands in Imperial County owned by the Imperial Irrigation District (IID). The proposed Project site is located on six parcels (052-170-039-000, 052-170-067-000, 052-170-031-000, 052-170-032-000, 052-170-056-000, and 052-170-037-000) approximately 6.5 miles southwest of the City of El Centro, California and 7.5 miles directly west of Calexico, California. As shown in Figure 2.0-2 in Chapter 2.0, Project Description, the Project site is generally located south of Kubler Road, east of the Westside Main Canal, north of State Route (SR) 98 and west of Pulliam Road. The site is crossed and bordered by field

roads, irrigation drainage channels and concrete irrigation ditches. Drew Road bisects the Project site north-south.

Phase I Environmental Site Assessment

Information contained in this section is summarized from the "Phase I Environmental Site Assessment Report Drew Solar Project North of State Route 98 at Drew Road West of Calexico, California" (GS Lyon 2018). This document is provided on the attached CD of Technical Appendices as **Appendix I** of this EIR.

The purpose of a Phase I ESA is to determine if any recognized or potential environmental conditions are present on the Project site. The American Society for Testing and Materials (ASTM) defines a "recognized environmental condition" (REC) as "any hazardous substance or petroleum product under conditions that indicate an existing, past, or material threat of release into the structures on the property or into the ground, groundwater, or surface water of the property." The term REC includes hazardous substances and petroleum products even under conditions that might be in compliance with laws. The term is not intended to include "de minimis" conditions which refer to a condition that generally does not present a threat to human health and/or the environment and that generally would not be subject to an enforcement action if brought to the attention of appropriate governmental agencies (GS Lyon 2018, p. 23).

The Phase I ESA included results of a site reconnaissance to identify current conditions of the solar field site parcels and adjoining properties, a review of various readily available federal, state, and local government agency records, and review of available historical site and site vicinity information.

Background Review

Historical Use Records

ASTM E1527-13 requires the environmental professional to identify all obvious uses of the property from the present back to the properties first developed use or 1940, whichever is earliest. This information is collected to identify the likelihood that past uses have led to RECs in connection with the properties. This task is accomplished by reviewing standard historical sources to the extent that they are necessary, reasonably ascertainable, and likely to be useful. These standard records include aerial photographs, fire insurance maps, property tax files, land title records, topographic maps, city directories, telephone directories, building department records, and zoning/land use records.

The general type of historical use (i.e., commercial, retail, residential, industrial, undeveloped, office) should be identified at 5-year intervals, unless the specific use of the property appears to be unchanged over a period longer than 5 years. The historical research is complete when the use is defined or when data failure occurs. Data failure occurs when all of the standard historical sources have been reviewed, yet the property use cannot be identified back to its first developed use or to 1940. Data failure is not uncommon in trying to identify the use of the property at 5-year intervals back to first use or 1940, whichever is earlier.

GS Lyon reviewed historical records to identify obvious uses of the subject properties from the present back to the properties first developed use, or to 1940, whichever is earlier. The results of this research and data failure, if encountered, are presented in the following sections.

Title Records

GS Lyon was provided with preliminary title records for review as part of this assessment. No liens were found from reviewing the preliminary report (see **Appendix I** of this EIR for the full report).

Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps are large scale maps depicting the commercial, industrial, and residential sections of various cities across the United States. Since the primary use of the fire insurance maps was to assess the buildings that were being insured, the existence and location of fuel storage tanks, flammable or other potentially toxic substances, and the nature of businesses are often shown on these maps.

Due to the rural undeveloped nature of the sites and vicinity, no Sanborn Fire Insurance Maps were available for the subject sites. A "No Coverage" letter for the Sanborn Fire Insurance Maps is included in Appendix E of the Phase I ESA included in **Appendix I** of this EIR.

Aerial Photographs

Aerial photographs obtained from the Imperial Irrigation District (IID) archives dating back to 1937 were reviewed for historical development of the subject sites. Reproductions of the historical aerial photographs reviewed are included in Appendix C of the Phase I ESA included in **Appendix I** of this EIR.

The 1937, 1949, 1953, 1956, 1965, 1976, 1985, 1996, 2002, 2008, 2013 and 2014 aerial photographs show the subject sites developed as agricultural fields.

The 2014 aerial photograph is similar to the 2013 photograph with the addition of photovoltaic solar power generation facilities constructed on adjacent properties.

Street Directories

GS Lyon Consultants contracted Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut to conduct a search of historic city directories for the subject properties (Appendix I of the Phase I ESA included in **Appendix I** of this EIR). City directories are used for locating individuals and businesses in a particular urban or suburban area. City directories are generally divided into three sections: a business index, a list of resident names and addresses, the name and type of businesses (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural and small towns.

EDR Digital Archive: The EDR Digital Archive for the years 1992, 1995, 2000, 2005, 2010 and 2014 were reviewed. No listings are shown for the subject sites. No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate

Historical Topographic Maps

Historic topographic maps (1940, 1943 and 1937), USGS 15 Min. Heber, CA Quadrangle, showed the subject site with five rural residences spread across the site. The (1957, 1976 and 2012) maps do not show any structures within the subject site. The maps can be found in Appendix D of the Phase I ESA included in **Appendix I** of this EIR.

Historical Telephone Directories

Telephone Directories: Telephone directories for the Imperial County businesses published in 1941, 1955, and 1968 were reviewed. No service stations, chemical manufacturers, petroleum manufacturers, distributors, or automotive repair facilities were noted at or in the immediate vicinity of the subject sites.

Historical Use Summary

Summary of the Historical Use of Property

Based on a review of the historical information, the subject properties were first developed prior to 1937 for agricultural use. The subject sites have been used for agricultural use since the late-1930's.

Summary of the Historical Use of Adjacent Properties

Historically, the properties located immediately adjacent to the subject properties have been agricultural use lands with scattered rural residential homes.

Site Reconnaissance

On November 6, 2017, a reconnaissance survey of the solar field site parcels was conducted. The site visit consisted of driving the perimeter of the Project site and randomly crossing each APN. The reconnaissance included visual observations or surficial conditions at the sites and observation of adjoining properties to the extent that they were visible from public areas.

The site reconnaissance was limited to visual and/or physical observation of the exterior and interior of the Project site and its improvements, the current uses of the Project site and adjoining properties, and the current condition of the Project site. The site visit evaluated the Project site and adjoining properties for potential hazardous materials/waste and petroleum product use, storage, disposal, and accidental release including the following: presence of tank and drum storage; mechanical or electrical equipment likely to contain liquids; evidence of soil or pavement staining or stressed vegetation; ponds, pits, lagoons, or sumps; suspicious odors; fill and depressions; or any other condition indicative of potential contamination. The site visit did not evaluate the presence of asbestos-containing materials, radon, lead-based paint, mold, indoor air quality, or structural defects, or other non-scope items (GS Lyon 2018, p. 16).

Site Conditions

The Project site is currently farmed as ten agricultural fields. One transformer was observed on a power pole along Drew Road near the Mount Signal Drain #1. No evidence of leakage from the transformer was noted and IID records indicate that all transformers in the Imperial Valley have been tested for PCB content. All transformers containing PCB's have been replaced by the IID (GS Lyon 2018, p. 5).

Groundwater

The groundwater in the area of the Project site is brackish and is typically encountered at a depth of 6 to 10 feet below the ground surface. Depth to groundwater may fluctuate due to the localized geologic conditions, precipitation, irrigation, drainage and construction practices in the region. Based on the regional topography, groundwater flow is assumed to be generally towards the north within the Project site. Flow directions may also vary locally in the vicinity of each parcel (GS Lyon 2018, p. 6).

Reconnaissance Observations

Although various features on the solar field site parcels have potential to contain hazardous substances or potential contamination, the Phase I ESA determined that proposed Project's activities and features do not constitute RECs. Aspects evaluated are briefly discussed below based on details provided in the Phase I ESA (GS Lyon 2018).

Hazardous Substances and Petroleum Products

No operations that use, treat, store, dispose of, or generate hazardous materials or petroleum products on the Project site during the site reconnaissance (GS Lyon 2018, p. 17).

Storage Tanks

During the site reconnaissance, no obvious visual evidence indicating the current presents of Underground Storage Tanks (i.e. vent pipes, fill ports, etc.) was noted. Likewise, no obvious visual evidence indicating the historical presence of Aboveground Storage Tanks (i.e. secondary containments, concrete saddles, etc.) was observed (GS Lyon 2018, p. 17).

Odors

No obvious strong, pungent, or noxious odors were noted on the Project site during the site reconnaissance (GS Lyon 2018, p. 17).

Drums and Containers

During the site reconnaissance, no drums or storage containers were observed on the Project site other than portable tanks containing anhydrous ammonia which is used for fertilizer for the fields (GS Lyon 2018, p. 17).

Unidentified Substance Containers

No open or damaged containers with unidentified substances was observed on the Project site during the site reconnaissance (GS Lyon 2018, p. 18).

Suspect Polychlorinated Biphenyl (PCB) Containing Equipment

No potential PCB-containing equipment such as electrical transformers, capacitors, and hydraulic equipment were observed on the Project site or immediate vicinity during the site reconnaissance (GS Lyon 2018, p. 18).

Pits, Ponds and Lagoons

No pits, pods or lagoons were noted on the Project site during the site reconnaissance (GS Lyon 2018, p. 18).

Stained Soils or Pavement

No evidence of significantly stained soil or pavement was noted on the Project site during the site reconnaissance (GS Lyon 2018, p. 18).

Stressed Vegetation

No evidence of stressed vegetation attributed to potential contamination was noted on the Project site during the site reconnaissance (GS Lyon 2018, p. 18).

Solid Waste

No dumpsters or solid waste containers exist on the Project site during the site reconnaissance (GS Lyon 2018, p. 18).

Wastewater

Storm water flows to the northeast and towards the Mount Signal Drain No. 1 (Imperial Irrigation District earthen farm drainage channel) (GS Lyon 2018, p. 18).

Wells

No evidence of wells (dry wells, drinking water, observation wells, groundwater monitoring wells, irrigation wells injection wells or abandoned wells) was noted on the Project site during the site reconnaissance (GS Lyon 2018, p. 19).

Septic System

No septic systems are present on the Project site (GS Lyon 2018, p. 19).

Asbestos Containing Materials

The potential for asbestos containing materials to be present on the Project site is very low due to the lack of structures (GS Lyon 2018, p. 19).

Lead Based Paint

The potential for lead based paint residues existing at the Project site is very low due to the lack of development on the Project site (GS Lyon 2018, p. 19).

Radon

The Project site is located in Zone 3 as shown on the EPA Map of Radon Zones. This zone indicates a predicted average indoor radon screening level of less than 2 pCi/L (GS Lyon 2018, p. 19).

Agricultural Use

The parcels comprising the Project site have been in agricultural use since the late 1930's. Residues of currently available pesticides and currently banned pesticides such as DDT/DDE may be present in near surface soils in limited concentrations. The concentrations of these pesticides found on the other Imperial Valley agricultural sites are typically less than 25% of the current regulatory threshold limits (GS Lyon 2018, p. 20).

Adjoining Properties

The properties adjoining the Project site are within a rural agricultural area of southwestern Imperial Valley north of SR 93 on either side of Drew Road west of Calexico. Properties surrounding the Project site are either agricultural fields or photovoltaic solar farms built within the last 4 years. A rural residence and farm equipment repair shop is located adjacent to the southern boundary of the property between Drew Road and SR 93. The Westside Main Canal is located adjacent to the southwestern boundary of the property.

Emergency Plans

The County of Imperial has adopted the "Imperial County Operational Area - Emergency Operations Plan," which addresses the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The plan identifies certain open space areas and public buildings to serve as emergency shelters when residents must be relocated. None of the solar field site parcels are designated as an emergency shelter area on the Fire/Emergency Management/Staging and Shelter Zone Map (Imperial County OES 2007).

Fire Hazard/Smoke

The potential for a major fire in the unincorporated areas of the County is generally low. According to the Draft Fire Hazard Severity Zones in the Local Responsibility Area (LRA) Map for Imperial County prepared by the California Department of Forestry and Fire Protection (CDF 2007a), the Project area is located in an area characterized having moderate or unzone fire hazard. The nearest high fire hazard severity zones are approximately 20 miles to the west.

Valley Fever

Valley Fever is an illness caused by a fungus (*Coccidioides immitis* and *C. posadasii*) that grows in soils under certain conditions. Favorable conditions for the Valley Fever fungus include low rainfall, high summer temperatures, and moderate winter temperatures. Soils within the Imperial Valley, including the Project area, fit the profile to harbor Valley Fever spores. When soils are disturbed by the wind or other activities such as construction and farming, Valley Fever fungal spores become airborne. The spores present a potential health hazard when inhaled. Individuals in occupations such as construction,

agriculture, and archaeology have a higher risk of exposure due to working in areas of disturbed soils which may have the Valley Fever fungus. Infection risk is highest in California during a six-month period from June to November. Animals are also susceptible to the disease. In extreme cases, the disease can be fatal, though the majority of Valley Fever cases are very mild with over 60 percent or more of infected people having no symptoms or flu-like symptoms (BLM 2010).

Valley Fever is not transmitted directly from person to person. Of those infected with *coccidioidomycosis*, approximately 60 percent may be asymptomatic. Following an incubation period of 1 to 3 weeks, clinical manifestations occur in 40 percent of infected persons and range from influenza-like illness, such as cough, fever, or difficulty breathing, to severe pneumonia, and rarely, disseminated disease. Disseminated infection, which can be fatal, most commonly involves skin and soft tissues, bones, and the central nervous system (CDPH 2017, p. 4).

Imperial County has a relatively low Valley Fever incidence rate. Data as of September 10, 2017 indicated that there were 5 cases in 2011; 12 cases is 2012; 5 cases in 2013; 0 cases in 2014; 2 cases in 2015; and 9 cases in 2017 (CDPH 2017, p. 7).

4.10.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to hazards and hazardous materials if it would result in any of the following:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Several criteria were eliminated from further evaluation as part of the Initial Study. Criterion "c" was eliminated because the Project area is not located within one-quarter mile of an existing school. Furthermore, the Project would not create any hazardous emissions. Therefore, this issue is not discussed further in this EIR.

Criterion "d" was eliminated because, as confirmed by the Phase I ESAs performed for the Project, none of the solar field site parcels are listed as hazardous materials sites pursuant to government Code Section 65962.5. Therefore, this issue is not discussed further in this EIR.

Criteria "e" was eliminated because the solar field site parcels are not located within two miles of a public airport. The two proposed Gen-Tie lines are not located within the airport compatibility zones associated with any of the public airports in Imperial County. The Johnson Brothers Airport is approximately 5.75 miles east of the Project site and the Naval Air Facility El Centro is approximately 8 miles to the north. According to Figure 3G (Compatibility Map-Naval Air Facility, El Centro) of the ALUCP, none of the solar field site parcels are within any of the Naval Air Facility, El Centro land use compatibility zones (Imperial County 1996). Based on the Project's location, construction and operational workers would not be subject to a safety hazard or excessive noise associated with a public airport. Thus, this issue is not discussed further in this EIR.

Criterion "f" regarding interference with an adopted emergency plan was eliminated from analysis. As identified in the Seismic and Public Safety Element of the County of Imperial General Plan (County of Imperial, n.d.), the "Imperial County Emergency Plan" addressed the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear defense operations. The proposed circulation plan for the Project site will be required to provide emergency access points and safe vehicular travel. In addition, local building codes would be followed to minimize flood, seismic, and fire hazard. Thus, the proposed Project would not impair the implementation of, or physically interfere with, any adopted emergency response plans or emergency evacuation plans. No impact is identified with regard to interference with an adopted emergency plan, and this issue is not discussed further in this EIR.

Lastly, criterion "g" was eliminated because the solar field site parcels are not characterized as an area of urban/wildland interface. According to the Imperial County Natural Hazard Disclosure (Fire) Map prepared by the California Department of Forestry and Fire Protection (CDF 2000), the Project site does not fall into an area characterized as either: (1) a wildland area that may contain substantial forest fire risk and hazard; or (2) a very high fire hazard severity zone. Thus, the Project site would not expose people or structures, either directly or indirectly, to significant risk of loss injury or death involving wildland fire. No impact is identified for this issue area this issue is not discussed further in this EIR.

C. Issues of General Public Concern

Several hazards of potential concern to the public have been previously raised on solar projects in the Imperial Valley. CEQA Guidelines 15128 states that an "EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." CEQA Guidelines 15143 states that an "EIR shall focus on the significant effects on the environment. The significant effects shall be discussed with emphasis in proportion to their severity and probability of occurrence." Finally, CEQA Guidelines 15151 requires the agency to provide an adequate, complete and good faith effort at full disclosure so decisions can be intelligently made, but it does not require an exhaustive of "perfect" analysis.

While these concerns were raised by the public, the issues do not require detailed study either because the probability of occurrence is low or there is not a sufficient body of evidence to support that the issues represent hazards that would be caused by the Project. Therefore, in accordance with CEQA Guidelines 15151, while there may be disagreement among experts, the analysis below makes a good faith effort at full disclosure to assist decision-makers with making a decision that intelligently accounts for environmental consequences.

Electromagnetic Fields

Both electric and magnetic fields occur together whenever electricity flows. Electric voltage (electric field) and electric current (magnetic field) from the proposed Gen-Tie lines would create the potential for electromagnetic field (EMF) exposure.

The available evidence as evaluated by the California Public Utilities Commission (CPUC) and other regulatory agencies has not established that such fields pose a significant health hazard to exposed humans. To date, there are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. Likewise, the State has not adopted any specific limits or regulation on EMF levels related to electric power facilities (BLM/CEC 2010). In addition, the CPUC issued Decision D.06-01-042 in 2006, which states: "at this time we are unable to determine whether there is a significant scientifically verifiable relationship between EMF exposure and negative health consequences…however, this decision directs the Commission's Energy Division to pursue and review all available studies regarding EMF, and to review scientific information and report on new findings. Should such studies indicate negative EMF health impacts, we will reconsider our EMF policies, and open a new rulemaking if necessary" (CPUC 2006). No new rulemaking has been opened.

The EPA acknowledges public concern regarding potential adverse health effects associated with EMF from power lines; however, the EPA also states that: "Much of the research about power lines and potential health effects is inconclusive…The general scientific consensus is that, thus far, the evidence available is weak and is 'not sufficient to establish a definitive cause-effect relationship.'" (EPA 2006). In addition, the "Preliminary Opinion on Potential Health Effects of Exposure to Electromagnetic Fields (EMF)" prepared by the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) stated that "The few available studies on combined exposure to EMF of different frequency ranges do not provide sufficient information to challenge existing risk assessment; in addition in most experiments an absence of effects has been reported." Further, with regard to health effects from co-exposure of EMF and other stressors, SCENIHR concluded that "The available literature suggests that EMF exposure may modify the effects of chemicals or other physical agents. However, the reports on combined effects lack consistency and are not linked to specific experimental conditions. Therefore, further research is needed in order to clarify any relevance of combined exposures to human cancer risk under real life exposure conditions, and to explore the potentially beneficial (protective) effects of such exposures." (SCENIHR 2013).

Based on the foregoing discussion explaining that the probability of EMF occurrence is low, and the evidence to support that EMFs are hazards that would be caused by the Project is insufficient, the potential for EMF levels to cause a hazardous health condition is not analyzed further in this EIR.

Interference with Radio-Frequency Communications

Radio-frequency interference can be produced by the physical interactions of line electric fields. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as "corona discharge" (also discussed in Section 4.8, Noise), but is referred to as "spark gap electric discharge" when it occurs within gaps between the conductor and insulators or metal fittings (BLM/CEC 2010). When generated, spark gap electric discharge manifests itself as perceivable interference with radio or television signal reception or interference with other forms of radio communication. The level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions. As a result, maximum interference levels are not specified as design criteria for modern transmission lines. The level of any such interference usually

depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts is rendered insignificant reducing the line electric fields and locating the line away from inhabited areas.

As described above, medium voltage collection lines would be used to transmit the electricity from the panel array fields to the Project substation(s). Substations/switchgear may be connected to one another through lines up to 230-kV that ultimately connect to the Mount Signal Solar Farm gen-tie. The proposed collector and Gen-Tie lines would be built and maintained in keeping with all applicable standards and regulations, including GO-95, the CPUC's "Rules for Overhead Electric Line Construction." GO-95 establishes standards to ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. The environmental impacts from spark gap electric discharge interference can be potentially significant for lines 345-kV or above, but not for 230-kV and lower voltage lines as included in the proposed Project. Therefore, because the probability of interference with radio communications is low, and the body of evidence to support the existence of hazards at the voltage of lines proposed for the Project is insufficient, this issue is not analyzed further in this EIR.

Hazardous Shocks

Hazardous shocks are those that could result from direct or indirect contact between an individual and an energized line. No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines (BLM/CEC 2010). Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. The proposed electrical collection lines and the Gen-Tie lines that the collector lines would connect to would be located in rural areas making it highly unlikely that the public would come in contact with the line. In addition, the Project would be designed, constructed, and operated to meet or the requirements of GO-95.

Lightning protection at the substation would be designed in accordance with the requirements of American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers (IEEE) 998 using a combination of lightning masts and static wireGO-95 governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements. These standards ensure that the appropriate clearances would be reliably maintained between the proposed electric collector line and crossings of existing electric line installations. Therefore, because the probability of hazardous shock occurrence is low and the body of evidence is insufficient to support that shocks are hazards, the potential for hazardous electric shock is not analyzed further in this EIR.

Fire Hazard (Non-Wildland/Operational)

The PV modules and ancillary equipment are constructed of fire-resistant material. Additionally, the Project includes routine weed abatement and landscape maintenance. The O&M building(s) would be constructed in accordance with local building codes. On-site fire-fighting equipment and training are features of the Project in the required Fire Prevention Plan. Finally, emergency fire access to nearby properties would not be hindered or restricted by the Project. As such, the Project represents a negligible increase in fire potential. With these Project features, there is a low probability of a significant fire hazard. Therefore, because the probability of fire hazard is low, the potential for non-wildland fires is not analyzed further in this EIR.

Valley Fever

Construction of the proposed Project would occur in an area favorable to the growth of *Coccidioides immitis*, a fungus that causes the flu-like sickness "Valley Fever." Construction activities would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. However, Imperial County is not considered to have a high incidence of Valley Fever (BLM 2011). While the potential exposure of workers to Valley Fever spores could occur during construction, compliance with ICAPCD Regulation VIII which regulates emissions of fugitive dust (refer to Section 4.4, Air Quality) would be effective in reducing airborne dust. Fugitive Dust Requirements for Control of $PM_{2.5}$ would, when implemented, minimize the spread of fungal spores thereby reducing potential for contracting Valley Fever during Project construction, operation, and decommissioning. With implementation of Regulation VIII, there is a low probability of a significant exposure to Valley Fever. Furthermore, the existing agricultural operations at the solar field site parcels already disturb the soil and could potentially cause fungal spores to become airborne, potentially putting farmworkers and wildlife at risk of contracting Valley Fever. Therefore, there is no evidence that the Project creates any increase in impacts to exposure Valley Fever, much less an impact that would rise to the level of significance. Therefore, because the probability of occurrence of any significant increase in exposure is so low, the potential for exposure to Valley Fever is not analyzed further in this EIR.

D. METHODOLOGY

The analysis of hazardous materials is twofold: hazards potentially existing on the solar field site parcels; and hazardous materials that would be used as part of Project construction, operations and maintenance, and decommissioning.

Potential existing hazards were assessed based on information contained in the "Phase I Environmental Site Assessment Report Drew Solar Project North of State Route 98 at Drew Road West of Calexico, California" (GS Lyon 2018). The Phase I ESA is provided on the attached CD of Technical Appendices as **Appendix I** of this EIR.

Some hazardous materials would be used on a short-term basis during construction and decommissioning. Others would be stored on-site for use during operation and maintenance. Therefore, this analysis was conducted by examining the choice and amount of chemicals to be used, the manner in which the Applicant would use the chemicals, the manner by which they would be transported to the facility, and the way in which the Applicant plans to store the materials on the solar field site parcels during construction and decommissioning and the CUPs during operation. The greatest amount of chemicals used, transported and stored on the solar field site parcels have the potential to occur during the Full Build-out Scenario (regardless of near-term or long-term). Therefore, the Full Build-out Scenario is considered the worst-case scenario for the purposes of this analysis.

E. PROJECT IMPACTS AND MITIGATION MEASURES

Hazardous Materials Transport, Use, Disposal and Accidental Release

Impact 4.10.1 Implementation of both the Full Build-out Scenario and Phased Build-out Scenario would use some hazardous materials for the construction, operations, and decommissioning phases and could create a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials. All materials would be transported, used and disposed of in accordance with all applicable local, state and federal requirements. Therefore, impacts associated with accidental release during hazardous materials transport, use and disposal are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

The Full Build-out Scenario and all the CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) would require the same activities for the construction, operations and maintenance, and decommissioning of the proposed Project. Likewise, both the Full Build-out Scenario and the Phased Build-out Scenario would be developed with similar solar modules and ancillary infrastructure. Therefore, the transport, use, and disposal of potential hazards and hazardous materials would be the same for both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

Transport

Some hazardous materials would be required during construction of the proposed Project. These include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. Large quantities of these materials are not anticipated to be necessary but would require transport to the solar field site parcels. All hazardous materials (such as diesel fuel, oil and grease for heavy equipment) transported to the solar field site parcels during construction would occur in compliance with DTSC regulations. Therefore, the likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated and impacts are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Use and Storage

The proposed Project would require use of some hazardous materials during construction. Limited quantities of hazardous materials would be stored or used on site. These include diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and equipment, and mineral oil for the substation transformers and PCS switchgear. The Project would also be required to comply with State laws and County Ordinance restrictions which regulate and control hazardous materials handled on site.

The Applicant will submit and receive a National Pollutant Discharge Elimination System permit from the Regional Water Quality Control Board (RWQCB) in accordance with a Stormwater Pollution and Prevention Plan (SWPPP) approved by the County. The SWPPP shall include source control and treatment control Best Management Practices (BMPs) which would address the use and storage of potentially hazardous materials.

No acutely toxic hazardous materials would be used and none of the materials are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals. Appropriate training and supervision of on-site personnel would be provided throughout construction of both the Full Build-out Scenario and the Phased Build-out Scenario regarding management of materials and wastes and responding to hazardous releases or spills or other site emergencies. This training would include the procedures to follow during any site emergency, and appropriate reporting of spills, releases, or other emergencies to Imperial County, and local emergency service providers. The Project features include personnel to oversee all aspects of a hazardous materials management plan. Both the Full Build-out Scenario and Phased Build-out Scenario would include a site-specific Injury and Illness Prevention Program designed to meet the OSHA and California OSHA (CalOSHA) requirements. The Program must be a written plan that includes procedures and is put into practice (CalOSHA 2014). The following elements are required for the written plan:

- Management commitment/assignment of responsibilities;
- Safety communications system with employees;
- System for assuring employee compliance with safe work practices;
- Scheduled inspections/evaluation system;
- Accident investigation;

- Procedures for correcting unsafe/ unhealthy conditions;
- Safety and health training and instruction; and
- Recordkeeping and documentation.

As part of the Injury and Illness Prevention Program, each CUP owner would follow BMPs. Any hazardous materials used during construction would be appropriately handled and stored. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during construction is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Disposal

During construction, typical construction wastes such as wood, concrete, and miscellaneous packaging materials as well as some broken PV or CPV modules would be generated. Spill cleanup procedures and kits would be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, would be collected on a regular basis and stored in designated areas.

Construction wastes would be disposed of in accordance with local, State and federal regulations, and recycling would be used to the greatest extent possible. Left-over or spent materials such as used oil filters, used batteries, used hydraulic fluid, oils, and grease would be generated during Project construction. Any spent or surplus hazardous wastes would be transported off-site for disposal in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

Any modules that are broken or damaged during construction will be collected and recycled or disposed of in accordance with the Federal Resource Conservation and Recovery Act (RCRA). Likewise, any damaged batteries discovered during construction will be collected and recycled or disposed of in RCRA (Ferrara, pers. comm., 2018). Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during construction is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Operation

Transport

Hazardous materials used during Project operation of both the Full Build-out Scenario and Phased Build-out Scenario would be similar to those used during construction and could include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. However, during Project operations, less of these materials are likely to be necessary because the activities required to operate and maintain the facilities would be less intensive than construction activities. Even though less of the hazardous materials would be required, transportation of the materials to the site and throughout the site during Project operations would be necessary. However, similar to Project construction, all transported hazardous material would occur in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated and impacts are considered **less than significant**.

Use and Storage

Operation of both the Full Build-out Scenario and Phased Build-out Scenario would require the use of some hazardous materials (diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and

equipment, and mineral oil for the substation transformers and PCS switchgear). All such materials would be used and stored with proper containment to avoid leaks and spills.

In addition, energy storage systems included as part of the Project may contain hazardous materials such as Nickel Metal Hydride, Nickel Cadmium, Lead Acid depending on the technology chosen. Brief descriptions of potential technologies are provided below:

Battery-Based Energy Facility Hazardous Materials

In order to provide a definitive description of hazardous materials and hazardous wastes used or generated at a battery-based energy storage facility in California, specific knowledge of the battery technology used at such a facility must be identified. (Note: In California, all batteries to be discarded are hazardous waste per waste battery guidance.[1]) Currently, the battery technologies under consideration can be classified into two categories and include:

Category 1: Existing Technologies with Proven Performance

Lithium Ion: Lithium ion battery technologies include a system of small connected lithium ion battery cells, which are not serviceable. As such, cells are replaced occasionally based on performance. In California, all such cells are hazardous materials when used based on the lithium component of the cell and are hazardous waste when discarded requiring management under 22 CCR Division 4.5.

Lead-Acid (serviceable or sealed): Lead-acid battery technologies include a system of connected lead-acid batteries, which may be serviceable or sealed. Individual lead-acid batteries are replaced occasionally based on performance. In California, all such batteries are hazardous materials when used based on the sulfuric acid component of the battery as the electrolyte as well as the lead component. Lead-acid batteries are a listed Recyclable Hazardous Waste when discarded requiring specific management under 22 CCR 66266.81.

Category 2: New Technologies

In addition to Category 1 technologies, the Project may also utilize storage technologies that operate based upon the principles of potential including but not limited to compressed air or pumped storage, Nickel Metal Hydride, Nickel Cadmium, antiperovskites or other batteries, including but not limited to solid state batteries that may be approved for commercial use within the United States of America, and flywheels (Ferrara pers. comm., 2018b).

Cooling Systems: Category 1 battery technologies and flow battery technologies would require cooling systems (either Heating, Ventilation and Air Conditioning [HVAC] or chillers with cooling towers). Coolants and additives to chillers are Hazardous Materials. HVAC units use ozone-depleting chemicals carrying specific management requirements under federal and state rules.

Transformers: A battery-based energy storage facility would add additional transformers to a solar project. The transformers would not be different than other transformers at the site, but all transformer fluids meet the definition of hazardous materials.

As with Project construction, operation of both the Full Build-out Scenario and Phased Build-out Scenario would also be required to comply with hazardous materials State laws and County Ordinance restrictions, provide appropriate training and supervision of on-site staff, prepare and obtain approval of a National Pollutant Discharge Elimination System (NPDES) permit, and prepare and implement a site-specific Health and Safety Plan designed to meet the OSHA and CalOSHA requirements. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during

[1] http://www.calrecycle.ca.gov/reducewaste/Batteries/

Project operation is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Disposal

Similar to Project construction, spent materials and wastes (used oil filters, used batteries, used hydraulic fluid, oils, and grease) would be generated during Project operation for both the Full Build-out Scenario and Phased CUP Scenario. However, during Project operations, less of these materials are likely to be necessary after installation of the solar arrays because the activities required to operate and maintain the facilities would be less intensive than construction activities. Nevertheless, the spent materials and wastes would be transported off-site for disposal according to applicable provisions of Health and Safety Code Section Sections 25160-25166.5, and in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

As described in the discussion of Project, any broken, damaged or degraded solar modules or batteries discovered during operation will be collected and recycled or disposed of in RCRA (Ferrara, pers. comm., 2018). Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during operations and maintenance is considered **less than significant.**

Decommissioning/Reclamation

Transport

Hazardous materials used during decommissioning of the Project would be similar in type and quantity to those used during Project construction and could include diesel fuel, oil and grease for heavy equipment as well as paints and solvents. These materials are likely to be used because the activities required to decommission the facilities would be similar in nature to construction activities and transportation of the materials to the site and throughout the site during decommissioning would be necessary. However, similar to the construction phase, all transported hazardous material would occur in compliance with DTSC regulations. Therefore, likelihood of an accidental release during transport or residual contamination following accidental release is not anticipated and impacts are considered **less than significant** during Project decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario**.** Following reclamation, hazardous materials similar to those currently used in association with agricultural production are anticipated to be used.

Use and Storage

Decommissioning of both the Full Build-out Scenario and the Phased Build-out Scenario would require the use of some hazardous materials (diesel, gasoline, motor oil and hydraulic fluids and lube oils for vehicles and equipment, and mineral oil for the substation transformers and PCS switchgear). During the Project decommissioning, an amount of these materials comparable to the materials required for construction are likely to be necessary because the activities required to decommission the facilities would be similar in nature to construction activities. Additionally, no acutely toxic hazardous materials would be used and none of the materials necessary are anticipated to pose a significant potential for off-site impacts such as contamination through a large release of chemicals under both the Full Build-out Scenario and the Phased CUP Scenario**.**

Similar to Project construction, decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario, would also be required to comply with hazardous materials State laws and County Ordinance restrictions, provide appropriate training and supervision of onsite staff, prepare and obtain approval of

a National Pollutant Discharge Elimination System permit, and prepare and implement a site-specific Health and Safety Plan be designed to meet the OSHA and CalOSHA requirements. Therefore, potential for accident conditions involving the release of hazardous materials used or stored during Project operation is considered **less than significant** during Project decommissioning for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Disposal

Similar to Project construction, spent materials and wastes (used oil filters, used batteries, used hydraulic fluid, oils, and grease) would be generated during decommissioning for both the Full Build-out Scenario and the Phased CUP Scenario. Spill cleanup procedures and kits would be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, would be collected on a regular basis and stored in designated areas.

Similar to Project construction, the spent materials and wastes would be transported off-site for disposal according to Health and Safety Code Sections 25160-25166.5, and in accordance with DTSC regulations regarding hazardous materials disposal. The DTSC regulates hazardous materials/waste through the Certified Unified Program Agency (CUPA) Imperial Hazardous Materials/Waste Unit. Detailed information about the use, storage and disposal of hazardous materials would be provided in the Hazardous Materials Management Plan (Health and Safety Code Chapter 6.11) that is required to be developed by the construction contractor.

As described in the discussion of Project construction, any broken, damaged or degraded solar modules or batteries discovered during operation will be collected and recycled or disposed of in RCRA (Ferrara, pers. comm., 2018). Therefore, potential for accident conditions involving the release of hazardous materials being disposed of during Project decommissioning is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Overall, impacts associated with the creation of a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials are considered **less than significant** in association with both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Hazard Through Upset/Release of Hazardous Materials

Impact 4.10.2 No hazardous materials that could be a significant hazard to the public or the environment were identified on the proposed solar field site parcels. Therefore, impacts associated with hazard through upset/release of hazardous materials are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

As previously noted, the Project-specific Phase I ESA conducted historical and regulatory database research, as well as a site reconnaissance survey to determine the extent of potential hazardous materials and conditions on the Project site. After a thorough investigation and analysis of data related to potentially hazardous materials (PCBs, ASTs, USTs, solid waste, and hazardous waste) located within the solar field site parcels and adjoining property conditions, the ESA concluded that no evidence of RECs were identified (GS Lyon 2018, p. 22).

Additionally, all the CUPs would contain similar solar modules and ancillary infrastructure and would also require the same activities for the construction, operation and maintenance, and decommissioning of the proposed Project. Therefore, the transport, use, and disposal of potential hazards and hazardous materials would be the same for all CUPs. The discussion below is applicable to both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

As previously stated, the ESA concluded that no evidence was found of RECs in connection with the parcels comprising the Project site (GS Lyon 2018, p. 22). Therefore, potential for hazards to the public or the environment through reasonably foreseeable upset and accident conditions during construction is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Herbicides/Pesticides

The solar field site parcels have been farmed since the late 1930's and most are currently in agricultural production. The Phase I ESA noted that based on the historical use of the solar field site parcels as field crops, residues of currently available pesticides and currently banned pesticides such as DDT/DDE may be present n near surface soils in limited concentrations. The concentrations of these pesticides found on other Imperial Valley agricultural sites are typically less than 25% of the current regulatory threshold limits and are not considered as significant environmental hazard. The presence and concentration of near surface pesticides at the Project site can be accurately characterized only by site-specific sampling and testing (GS Lyon 2018, p. 20). However, this is considered a *de minimis* condition. Therefore, impacts associated with herbicides/pesticides are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Polychlorinated Biphenyls

During the site visit conducted for the ESA, one IID pole-mounted transformers was observed along Drew Road. The transformer is owned by and is the responsibility of the IID. All transformers containing PCBs have been replaced by IID (GS Lyon 2018, p. 16).

Additionally, if, during construction activities, on-site transformers that require removal are found to contain PCBs, the contractor would be required to comply with applicable federal, state, and local regulations included in the Hazardous Material Management Plan to be prepared for the Project. Therefore, impacts associated with transformers potentially containing PCBs are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Operation

As previously discussed with regard to construction, the Phase I ESA concluded that no evidence was found of RECs in connection with any of the parcels within the Project site (GS Lyon 2018, p. 23). Therefore, potential for hazards to the public or the environment through reasonably foreseeable upset and accident conditions during operations and maintenance is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Herbicides/Pesticides

Less soil disturbance would occur during Project operations compared to Project construction. However, some dust producing activities may occur. As previously discussed for Project construction, residual *de minimis* concentrations of DDT/DDE may be present in shallow soil of the solar field site parcels. However, the potential presence of residual concentrations of DDT/DDE in the shallow on-site soils is not considered to be a REC because the potential presence of low concentrations of agricultural chemicals on the Project site is not anticipated to be at hazardous levels (GS Lyon 2018, p. 23). Additionally, any potential for air dispersion of pesticide residues in dust during grading activities would

be minimized by the fugitive dust control plan implemented by the Applicant in accordance with ICAPCD Regulation VIII requirements, as discussed in Section 4.4, Air Quality. No direct impact (exposure during construction) or indirect impact (exposure following construction) would occur relative to pesticide residue in association with operations and maintenance of both the Full Build-out Scenario and Phased CUP Scenario. Therefore, impacts associated with exposure to pesticide residue during operations and maintenance would be **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Decommissioning/Reclamation

As previously discussed for Project construction, the Phase I ESA concluded that no evidence was found of RECs in connection with any of the parcels within the Project site (GS Lyon 2018, p. 22). Therefore, potential for hazards to the public or environment through reasonably foreseeable upset and accident conditions during decommissioning is considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Herbicides/Pesticides

As a result of the removal of the Project infrastructure, decommissioning of the proposed Project would result in a similar amount of soil disturbance as the construction phase. As previously discussed in association with Project construction, residual concentrations of pesticides such as DDT/DDE may be present in shallow soil of the solar field site parcels. However, the potential presence of residual concentrations of pesticides in the shallow on-site soils is not considered to be a REC and no soil remediation was necessary or recommended in the Project ESA (GS Lyon 2018, p. 22) because the potential presence of low concentrations of agricultural chemicals on the Project site is not anticipated to be at hazardous levels. Additionally, any potential for air dispersion of pesticide residues in dust during grading activities would be minimized by the fugitive dust control plan implemented by the Applicant in accordance with ICAPCD Regulation VIII requirements, as discussed in Section 4.4, Air Quality. No direct impact (exposure during decommissioning) or indirect impact (exposure following reclamation) would occur relative to pesticide residue in association with decommissioning of both the Full Build-out Scenario and the Phased CUP Scenario. Therefore, impacts associated with exposure to pesticide residue during decommissioning would be **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.10.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope of the cumulative setting for hazards and hazardous materials is a one-mile radius from the geographical center point of the solar field site parcels. One mile is the standard ASTM standard search distance for hazardous materials. This geographic scope encompasses an area larger than the Project area and provides a reasonable context wherein cumulative projects in the vicinity of the proposed Project could affect hazards and hazardous materials. Based on Table 3.0-1 (Proposed, Approved and Reasonably Foreseeable Projects in the Region) in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, there are three other projects from the cumulative projects list within the geographic scope: Centinela Solar, Calexico I-B, and a portion of Signal Solar Farm.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Hazards and Hazardous Materials Impact

Impact 4.10.3 The proposed Project, in combination with other reasonably foreseeable projects in the vicinity of the solar field site parcels, would increase the density of development in the area, thereby potentially increasing the potential for the presence of hazards and use of hazardous materials. However, hazards are addressed on a case-by-case basis through federal and state hazardous materials laws, regulations, and policies. Therefore, cumulative hazards and hazardous materials impacts are considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Three of the projects identified in the list of cumulative projects are within a one-mile radius of the Project area, and are therefore considered within the geographic scope for the consideration of cumulative effects from hazardous materials sites. These projects could contribute to cumulative adverse effects from hazards and hazardous materials.

CUP #17-0031 thru CUP#17-0035 would contain similar solar modules and ancillary infrastructure and would also require the same activities for the construction, operations and maintenance, and decommissioning of the proposed Project. CUP#18-0001 would allow development of energy storage as a component of solar on lands zoned A-2 and A-3. The discussion below is applicable to the both the Full Build-out Scenario and the Phased CUP Scenario.

Construction

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed Project site. Both the proposed Project and the other cumulative Projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction. Accidental release of hazardous materials during construction can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative Projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, the proposed Project includes measures to avoid spills (i.e. training and supervision of on-site personnel regarding management of materials and wastes). Based on the nature of the proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the potential for release of hazardous materials. Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during construction would be **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Any existing on-site hazards, if present on any of the cumulative Project sites, are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of onsite hazards during construction. Compliance with Regulation VIII (discussed in Section 4.4, Air Quality) has been developed for the proposed Project to reduce dust related impacts. Other projects located in the cumulative setting will also be required to implement Regulation VIII. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to

hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts is considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Operation

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed Project site. Both the proposed Project and the other cumulative Projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during operation and maintenance. Accidental release of hazardous materials during operation and maintenance can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, the proposed Project includes measures to avoid spills. Based on the nature of the proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the potential for release of hazardous materials.

While the specific battery technology has not been identified, all battery storage facilities would be required to comply with local, state and federal regulations regarding operation. This includes transport as well as handling. During operation, batteries would be housed in buildings or storage containers with proper temperature monitoring and fire suppression systems. Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during operation and maintenance would be **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Existing on-site hazards, are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable renewable energy projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of onsite hazards during operation and maintenance. The Project would comply with ICAPCD Regulation VIII to reduce dust related impacts. Likewise, other projects located in the cumulative setting will be required to implement this Regulation as well as project-specific mitigation measures. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts is considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Decommissioning/Reclamation

The potential exists for additional hazardous materials to be transported, used and generated in association with increased development in the vicinity of the proposed solar field site parcels. Both the proposed Project and the other cumulative projects within a one-mile radius would involve the storage, use, disposal, and transport of hazardous materials, including battery storage systems, to varying degrees during decommissioning. Accidental release of hazardous materials during decommissioning can be mitigated to less than significant levels through compliance with various federal, state, and local laws, regulations, and policies regarding transport and use of hazardous materials. It is reasonable to expect that the proposed Project and other cumulative projects would implement and comply with these existing hazardous materials laws, regulations, and policies. Additionally, compliance with State laws and Federal regulations require that measures are taken to avoid spills. Based on the nature of the

proposed Project as a solar energy generation facility, it would not result in the generation or transport of substantial quantities of hazardous materials or present the potential for release of hazardous materials during decommissioning. Any broken, damaged or degraded solar modules or batteries discovered during operation will be collected and recycled or disposed of in RCRA (Ferrara, pers. comm., 2018). Therefore, the proposed Project's contribution to cumulative transport of hazardous materials impacts during decommissioning would be **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Existing onsite hazards are localized and site-specific. Potential impacts are not expected to combine with similar impacts of past, present, or reasonably foreseeable projects. Mitigation measures would be developed to minimize the impacts of any cumulative project on a project-specific level. The proposed Project and other cumulative projects would also be required to comply with applicable regulations regarding the presence of on-site hazards during decommissioning. The Project would comply with Regulation VIII to reduce dust related impacts. It is anticipated that the other projects located in the cumulative setting will be required to implement similar mitigation measures. Following implementation of any required mitigation measures and compliance with applicable regulations, each project's impacts to hazards and hazardous materials would be less than significant. Therefore, the Project's contribution to cumulative hazardous materials impacts during decommissioning is considered **less than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario**.**

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

SECTION 4.11

HYDROLOGY AND WATER QUALITY

This section describes federal, state and local regulations applicable to hydrology and water quality. It also describes the regional hydrologic setting, existing hydrology/drainage (on-site and off-site), and existing flood hazards in the vicinity of the solar field site parcels. Water quality is also described in terms of groundwater beneath the solar field site parcels and surface waters in the region and the Imperial Valley.

This section also describes effects on hydrology and water quality that would be caused by implementation of the proposed Project based on the *Drew Solar Conceptual Drainage Study and Storm Water Quality Analysis*, prepared by Fuscoe Engineering, Inc. (Fuscoe 2018a). This document is provided on the attached CD of Technical Appendices as **Appendix J** of this EIR.

4.11.1 REGULATORY FRAMEWORK

A. FEDERAL

Federal Emergency Management Agency

Imperial County is a participant in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted, as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of one in 100 years, although such a flood may occur in any given year. Imperial County is occasionally audited by the Department of Water Resources (DWR) to ensure the proper implementation of FEMA floodplain management regulations.

B. STATE

The Porter-Cologne Water Quality Control Act

In the State of California, the State Water Resources Control Board (SWRCB) and local Regional Water Quality Control Boards (RWQCBs) have assumed the responsibility of implementing the US EPA's NPDES Program and other programs under the CWA such as the Impaired Waters Program and the Antidegradation Policy. The primary water quality control law in California is the Porter-Cologne Water Quality Act (Water Code Sections 13000 et seq.). Under Porter-Cologne, the SWRCB issues joint federal NPDES Storm Water permits and state Waste Discharge Requirements (WDRs) to operators of municipal separate storm sewer systems (MS4s), industrial facilities, and construction sites to obtain coverage for the storm water discharges from these operations.

State Water Resources Control Board

In the State of California, the State Water Resources Control Board (SWRCB) and the local Regional Water Quality Control Boards (RWQCBs) have assumed the responsibility of implementing the US EPA's NPDES Program and other programs under the CWA such as the Impaired Waters Program and the Antidegradation Policy. The primary water quality control law in California is the Porter-Cologne Water

Quality Act (Water Code Sections 13000 et seq.). Under Porter-Cologne, the SWRCB issues joint federal NPDES Storm Water permits and state Waste Discharge Requirements (WDRs) to operators of municipal separate storm sewer systems (MS4s), industrial facilities, and construction sites to obtain coverage for the storm water discharges from these operations.

Basin Plan Requirement

In addition to its permitting programs, the SWRCB, through its nine RWQCBs, developed Regional Water Quality Control Plans (or Basin Plans) that designate beneficial uses and water quality objectives for California's surface waters and groundwater basins, as mandated by both the CWA and the state's

Porter-Cologne Water Quality Control Act. Water quality standards are thus established in these Basin Plans and provide the foundation for the regulatory programs implemented by the state. The Colorado River Basin RWQCB Basin Plan, which covers the Project Area, designates beneficial uses for surface waters and ground waters.

Construction General Permit

The Construction General Permit (CGP), (Order 2009-0009-DWQ as modified by Order 2010-0014-DWQ, NPDES Permit No. CAS000002), issued by the SWRCB, regulates storm water and non-storm water discharges associated with construction activities disturbing one acre or greater of soil. Construction sites that qualify must submit a Notice of Intent (NOI) with the SWRCB to gain permit coverage or otherwise be in violation of the CWA and California Water Code.

The CGP requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for each individual construction project greater than or equal to 1 acre of disturbed soil area. The SWPPP must list Best Management Practices (BMPs) that the discharger will use to control sediment and other pollutants in storm water and non-storm water runoff. The CGP requires that the SWPPP is prepared by a Qualified SWPPP Developer (QSD) and implemented at the site under the review/direction of a Qualified SWPPP Practitioner (QSP).

The Project includes over one acre of grading within the County of Imperial, and is therefore subject to the storm water discharge requirements of the CGP. The Project will submit a NOI and prepare a SWPPP prior to the commencement of soil disturbing activities. In the Colorado River Basin Region, where the project resides, the SWRCB is the permitting authority, while the County of Imperial and Colorado River Basin RWQCB provide local oversight and enforcement of the CGP.

Phase II MS4 Permit

The State Water Resources Control Board (State Water Board) adopted the General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems under Order No. 2013-0001-DWQ (Statewide Small MS4 Permit) on February 5, 2013. The Statewide Small MS4 Permit, regulates storm water discharges from municipal areas serving populations less than 100,000 that are either located within a census-defined ("urbanized area") or designated as subject to the permit requirements. The State Small MS4 Permit was recently amended in December 2017 to include the adopted Trash Policy Implementation plan and Total Maximum Daily Load (TMDL) requirements." (SWRCB 2018).

Industrial Storm Water Permit

In 2014, the State Water Resources Control Board adopted a new Industrial General Permit (Water Quality Order No. 2014-0057-DWQ). This NPDES permit was issued by the State of California to all qualifying industrial facilities based upon land use and Standard Industrial Code (SIC). Within the County of Imperial, the IGP is administered by the Colorado River Basin Regional Water Quality Control Board. Per Attachment A of Order 2014-0057-DWQ, facilities covered by the IGP include any facility that generates steam for electric power through the combustion of coal, oil, wood, etc. The Project is a solar energy facility utilizing traditional photovoltaic (PV) panels for the generation of electricity, and includes both storage of on-site generation and grid energy storage. The Project does not involve the generation of steam for electric power and does not match the description of any other facility given in Attachment A of Order 2014-0057-DWQ. As such the Project will not be required to enroll in the IGP (Fuscoe 2018a).

Water Quality Control Plan Colorado River – Region 7

The Water Quality Control Plan - Colorado River Basin Plan (Basin Plan) was prepared by the RWQCB-7, and establishes beneficial uses in the Colorado River Basin. The Basin Plan also identifies water quality objectives that protect the beneficial uses of surface water and groundwater; describes an

implementation plan for water quality management in the Colorado River Region; and describes measures designed to ensure compliance with statewide plans and policies. Overall, the Basin Plan provides comprehensive water quality planning in Region 7 which encompasses all of Imperial County as well as portions of San Bernardino, Riverside and San Diego Counties (RWQCB-7 2006).

Clean Water Act (CWA) Section 303(d)

Section 303(d) of the CWA deals with Water Quality Standards and Implementation Plans. Specifically, section (d) addresses the stringency of effluent limitations for state waters and whether the limitations are stringent enough to implement any water quality standard applicable to such waters. Section 303(d) requires each state to establish a priority ranking for such waters taking into account the severity of the pollution and the uses to be made of such waters. In addition, Section 303(d) requires each state to identify those waters or parts thereof within its boundaries for which controls on thermal discharges under Section 301 are not stringent enough to assure protection and propagation of a balanced indigenous population of shellfish, fish and wildlife. For the specific purpose of developing information, each state shall identify the total maximum daily load with seasonal variations and margins of safety for those pollutants which the Administrator identifies under section 204(a)(2) as suitable for such calculation and for thermal discharges at a level that would assure protection and propagation of a balanced indigenous population of fish, shellfish and wildlife. Section 303(d) also identifies Limitations on Revision of Certain Effluent Limitations and addresses instances where the standard is Not Attained as well as instances where the Standard is attained.

Clean Water Act (CWA) Section 401

Section 401 of the CWA, water quality certification, provides states and authorized tribes with an effective tool to help protect water quality, by providing an opportunity to address the aquatic resource impacts of federally issued permits and licenses. Under Section 401, a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. until the state or tribe where the discharge would originate has granted or waived section 401 certification. The central feature of CWA section 401 is the state or tribe's ability to grant, grant with conditions, deny or waive certification. Granting certification, with or without conditions, allows the federal permit or license to be issued consistent with any conditions of the certification. Denying certification prohibits the federal permit or license from being issued. Waiver allows the permit or license to be issued without state or tribal comment. States and tribes make their decisions to deny, certify, or condition permits or licenses based in part on a proposed Project's compliance with EPA-approved water quality standards. In addition, states and tribes consider whether the activity leading to the discharge will comply with any applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and other appropriate requirements of state or tribal law.

Clean Water Act (CWA) Section 404

CWA Section 404 establishes a program to regulate the discharge of dredged and fill material into waters of the United States (WUS), including wetlands. Responsibility for administering and enforcing Section 404 is shared by the U.S. Army Corps of Engineers (USACE) and EPA. USACE administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. EPA develops and interprets the environmental criteria used in evaluating permit applications, identifies activities that are exempt from permitting, review/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto USACE permit decisions. With EPA approval and oversight, states and tribes can assume administration of the Section 404 permit program in certain "non-navigable" waters within their jurisdiction.

California Toxic Rule

Under the California Toxic Rule (CTR), the USEPA has proposed water quality criteria to priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The CTR satisfies CWA requirements and protects public health and the environment. The USEPA and the SWRCB have the authority to enforce these standard, which are incorporated into the NPDES permits that regulate the current discharges in the study areas.

C. LOCAL

Imperial County General Plan

The Imperial County General Plan contains goals, objectives, policies and programs created to ensure water resources are preserved and protected. **Table 4.11-1** identifies applicable General Plan goals, objectives, policies and programs from the Conservation and Open Space Element for water quality and flood hazards that are relevant to the Project. In addition, one policy and two programs from the Water Element that directly relate to the Project are also analyzed. 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.

TABLE 4.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Preservation of Water Resources		
Goal 6 The County will conserve, protect, and enhance water resources in the County.	Yes	The proposed Project would protect water quality during construction through compliance with Imperial County design and detention requirements and the NPDES GCP, as well as preparation and implementation of Project-specific SWPPP(s), which will incorporate the requirements referenced in the State Regulatory Framework, design features, and BMPs. Therefore, the proposed Project would be consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
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.	Yes	To ensure proper drainage and accommodate storm water runoff, the proposed Project would rely on existing drainage patterns coupled with proposed detention basins and shallow ponding basins. The *Conceptual Drainage Study and Storm Water Quality Analysis* (Fuscoe 2018a) confirmed the adequacy of drainage for the proposed Project. Proposed detention basins and shallow ponding basins would be designed to meet County of Imperial Requirements. Final limits of the detention basins and shallow ponding would be determined during final design, subject to review and approval by the County. Therefore, the proposed Project would be consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario**.**
Objective 6.3 Protect and improve water quality and quantity for all water bodies in Imperial County.	Yes	The proposed Project would protect water quality during construction through compliance with the NPDES GCP, SWPPP, and BMPs. Design features and BMPs have also been identified to address water quality for the Project as described below in Section 4.11.3, Impacts and Mitigation Measures. For example, each CUP Area owner would be required to file a NOI to comply with the NPDES GCP during construction. Water quantity would be maintained for the proposed Project by retaining the majority of the Solar Field Site Parcels with pervious surfaces. Temporary conversion of the Solar Field Site Parcels from agricultural uses to a solar energy generation and storage facility may also improve runoff quality by eliminating use of fertilizers and pesticides. Even if the proposed Project does not improve water quality and quantity as anticipated, it will protect existing conditions and satisfy County requirements. Therefore, the proposed Project would be consistent with this objective for both the Full Build-out Scenario and the

TABLE 4.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
		Phased CUP Scenario.
WATER ELEMENT		
Protection of Water Resources from Hazardous Materials		
Policy: Adoption and implementation of ordinances, policies, and guidelines which assure the safety of County ground and surface waters from toxic or hazardous materials and/or wastes.	Yes	The Project would preserve ground and surface water quality from hazardous materials and wastes during construction, operation and decommissioning activities. The proposed Project would protect water quality during construction through compliance with NPDES GCP, SWPPP, which will incorporate the requirements referenced in the State Regulatory Framework and BMPs. Applicant proposed Measures/Project Design Features have also been identified to address water quality during Project operations (refer to Table 2.0-6 in Chapter 2.0, Project Description). It is anticipated that Project decommissioning activities would be subject to similar or more stringent ground and surface water regulations in place at the end of each CUP AREA. Therefore, the proposed Project would comply with this policy for both the Full Build-out Scenario and the Phased CUP Scenario.
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.	Yes	A Conceptual Drainage Study and Stormwater Quality Analysis report has been prepared for the proposed Project (Fuscoe 2018a). As noted under the analysis Objective 8.5 of the Conservation and Open Space Element (above), the Project includes Applicant proposed Measures/Project Design Features in addition to required compliance with a general NPDES permit and SWPPP during construction and with BMPs during operation. Compliance with these features would ensure Project-related application of herbicides and dust-suppressants would not be allowed to degrade ground and surface waters in the County. Finally, it is anticipated that Project

TABLE 4.11-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
		decommissioning activities would be subject to similar or more stringent ground and surface water regulations in place at the end of each CUP's operational lifetime, whichever is later. Therefore, the proposed Project would not significantly contaminate ground or surface waters. Temporary conversion of the Solar Field Site Parcels from agricultural uses to a solar generation facility may improve runoff quality by eliminating use of fertilizers and pesticides. Therefore, the proposed Project would be consistent with this program for both the Full Build-out Scenario and the Phased CUP Scenario.
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.	Yes	No adverse effects on water quality are anticipated in association with implementation of the proposed Project. The Project would comply with applicable County, Imperial County Air Pollution Control District (ICAPCD), Imperial Irrigation District (IID) and SWRCB requirements regarding water quality and quantity. The Project would also implement Applicant proposed Measures/Project Design Features (refer to Table 2.0-6 in Chapter 2.0, Project Description) to ensure compliance with applicable regulations. Therefore, the proposed Project would be consistent with this program. Refer also to the analysis for Conservation and Open Space Element Objective 6.3 for both the Full Build-out Scenario and the Phased CUP Scenario.

County of Imperial Land Use Ordinance, Title 9

Division 16 of Title 9 of the Land Use Ordinance addresses Flood Damage Prevention Regulation. The purpose of this division is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provision of design to protect human life and minimize damage. Division 16 of Title 9 of the Land Use Ordinance requires an application for development in the floodplain to be submitted to the County's Floodplain Administrator. This division restricts floodplain uses; requires that floodplain uses be protected against flood damage; controls alteration of floodplains and stream channels; controls filling and grading in floodplains; and prevents diversion of flood flows where these would increase flood hazards in other areas.

Division 22 of Title 9 of the Land Use Ordinance addresses groundwater. The focus of this division is to preserve, protect and manage the groundwater within the County.

County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County

The *County of Imperial Engineering Design Guidelines Manual for the Preparation and Checking of Street Improvements, Drainage and Grading Plans within Imperial County* (Imperial County 2008) provides drainage design standards for development throughout the County. Specific standards

applicable to the Project include:

- Detention volume of three inches of rainfall with no assumed infiltration or evaporation for development of impervious areas. Detention basins are to empty within 72 hours after receiving water.
- Finished pad elevations for buildings shall be at or above the 100-year flood elevation. Finished floors shall be six inches above the 100-year flood.
- Drainage report required for all developments.

Imperial Irrigation District

IID's Water Department has been serving the Imperial Valley's water needs for over 100 years. The district provides raw Colorado River water for irrigation and also for non-potable residential and industrial use. The IID Water Department is responsible for the timely operation and maintenance of the extensive open channel system, and effectively delivers its annual entitlement of 3.1 million acre-feet, less water transfer obligations, to nearly one-half million acres for agricultural, municipal and industrial use. Of the water IID transports, approximately 97 percent is used for agricultural purposes, making possible Imperial County's ranking as one of the top 10 agricultural regions nationwide. The remaining three percent of its water deliveries supply seven municipalities, one private water company and two community water systems as well as a variety of industrial uses and rural homes or businesses. As on-farm conservation efficiency measures are implemented, this ratio will change (IID 2018).

Water diverted at Imperial Dam for use in the Imperial Valley first passes through one of three de-silting basins, used to remove silt and clarify the water. From the de-silting basins, water is then delivered to the Imperial Valley through the 80-mile long All-American Canal. To facilitate water delivery, IID operates 1,668 miles of canals and laterals. IID also maintains approximately 1,456 miles of drainage ditches used to collect surface runoff and subsurface drainage from the tile drains underlying Imperial Valley farmland. Most of these drainage ditches ultimately discharge water into either the Alamo River or the New River (IID 2018).

4.11.2 ENVIRONMENTAL SETTING

Information contained in this section is summarized from the *Drew Solar Conceptual Drainage Study and Storm Water Quality Analysis* (Fuscoe 2018a).

A. HYDROLOGIC UNIT

Hydrologic Unit Contribution

The project is located in the Brawley Hydrologic Area, in the Imperial Hydrologic Unit. The corresponding number designation is 723.10.

The Imperial Hydrologic Unit consists of the majority of the Imperial Valley, encompassing over 1.3 million acres of land. The watershed includes vast acreages of agricultural land; towns such as El Centro, Calexico, and Brawley, along with a large network of IID operated Canals and Drains. The watershed is atypical of most watersheds in California, as it currently and historically has been shaped by man-made forces. The watershed's primary watercourses, the New and Alamo rivers, flow north, from the Mexican border toward their final destination, the Salton Sea. The Salton Sea, a 376 square mile closed inland lake was created in 1905 through a routing mistake and subsequent flood on the Colorado River. The Sea has been fed primarily by agricultural runoff from the New and Alamo Rivers ever since.

CWA Section 303(d) listed water quality impairments and TMDLs are present for the receiving waters of the project, and are discussed shown in **Table 4.11-2** and **Table 4.11-3**, below.

B. WATER QUALITY

Beneficial Uses

According to Table 2-3 of the *Water Quality Control Plan for the Colorado River Basin Region* (Basin Plan), the beneficial uses for the project's receiving waters are:

Imperial Valley Drains

FRSH - Freshwater Replenishment REC I – Water Contact Recreation (unauthorized, infrequent fishing activity)

REC II - Non-Contact Water Recreation (unauthorized)

WARM - Warm Freshwater Habitat

WILD - Wildlife Habitat RARE – Preservation of Rare, Threatened or Endangered Species (only exists in some of the waterways)

The above beneficial uses for the Imperial Valley Drain system are broadly based considering the fact that many of the Drains are maintained and operated as open channel conveyance systems.

New River

FRSH – Freshwater Replenishment IND- Industrial Service Supply (potential)

REC I – Water Contact Recreation (hazardous due to contamination)

REC II – Non-Contact Water Recreation

WARM – Warm Freshwater Habitat

WILD – Wildlife Habitat RARE – Preservation of Rare, Threatened or Endangered Species

Salton Sea

AQUA - Aquaculture IND- Industrial Service Supply (potential)

REC I – Water Contact Recreation

REC II – Non-Contact Water Recreation

WARM – Warm Freshwater Habitat

WILD – Wildlife Habitat RARE – Preservation of Rare, Threatened or Endangered Species

Section 303(d) Status

According to the California 2006 303d list published by the State Water Resources Control Board (SWRCB), the Project's receiving waters have beneficial use impairments as follows:

TABLE 4.11-2
303(D) IMPAIRMENTS

Receiving Water	Hydrologic Unit Code	303(d) Impairment(s)	Distance from Project (miles)
Imperial Valley Drains (Mt. Signal Drain, Greeson Drain)	723.10	DDT Dieldrin Endosulfan PCBs Selenium Toxaphene	<0.1 miles
New River	728.00	Chlordane Chloroform Chlorpyrifos Copper DDT Diazinon Dieldrin Mercury Nutrients Organic/Low DO PCBs Xylene Pesticides Toluene Selenium Toxaphene Toxicity Trash Cymene Dichlorobenzene	5 miles
Salton Sea	728.00	Nutrients Salinity Selenium	28 miles

Source: Fuscoe 2018a.

TMDL Status

TMDLs established for receiving waters of the project are summarized in **Table 4.11-3** and **Table 4.11-4** below.

TABLE 4.11-3
TMDLS

Receiving Water	Hydrologic Unit Code	303(d) Impairment(s)	Distance from Project (miles)
Imperial Valley Drains	723.10	Sediment/Siltation	<0.1 mile
New River	728.00	Pathogens Sediment/Siltation Trash	<0.1 mile

Source: Fuscoe 2018a.

The Imperial Valley Drains' 2005 Sediment/Siltation TMDL sets numeric targets on the Imperial Valley Drains for Total Suspended Solids (TSS). The target is 200 mg/L which would achieve a low to moderate level of protection. According to the 2005 TMDL implementation plan, an overall 63% reduction from the current TSS level is required to meet the minimum targets set forth by the TMDL.

High sedimentation in the Imperial Valley Drains has led to increased mobilization of agricultural pesticides and a highly turbid environment for sensitive aquatic species. The main source of sediment to the New River is agricultural runoff from the Imperial Valley (Fuscoe 2018a).

The New River's 2002 Pathogens TMDL sets numeric targets on the New River with 30 day mean, and instantaneous maximum limits for Fecal Coliforms, E. Coli, and Enterococci. Those limits are shown in **Table 4.11-4**, below.

TABLE 4.11-4
TMDL LIMITS

	Fecal Coliform	E. Coli	Enterococci
30-day Geometric Mean	200	126	33
Instantaneous Maximum	<10% Over 400	400	100

Source: Fuscoe 2018a.

The New River's main sources of pathogens (indicated by fecal coliforms and E. coli bacteria) are discharges of municipal wastes from the Mexicali Valley in Mexico and non-disinfected but treated wastewater from five domestic Imperial Valley wastewater treatment plants. Natural sources of pathogens play a relatively insignificant role. The significance of contributions from confined animal feeding operations and other nonpoint sources of pollution in the Imperial Valley are not fully known at this time (Fuscoe 2018a).

The New River's 2002 Sediment/Siltation TMDL sets numeric targets on the New River for Total Suspended Solids (TSS). The target is 200 mg/L which would achieve a low to moderate level of protection. According to the 2002 TMDL implementation plan, an overall 17 percent reduction from the current TSS level is required to meet the minimum targets set forth by the TMDL.

High sedimentation in the New River has led to increased mobilization of agricultural pesticides and a highly turbid environment for sensitive aquatic species. The main source of sediment to the New River is agricultural runoff from the Imperial Valley and Mexico.

The New River's 2007 Trash TMDL sets numeric targets on the New River for trash in the form of reduction percentages. These targets are a 75 percent reduction in trash within two years of USEPA approval of the TMDL, and a 100% reduction within three years of USEPA approval of the TMDL. This TMDL focuses on the reach of the New River immediately downstream of the international boundary, since this portion of the River is most impacted by trash, which primarily originates south of the international border (Fuscoe 2018a).

Groundwater Quality

Geographically, the Project site is located within the Imperial Groundwater Basin (Fuscoe 2018a, p. 18). The Imperial Valley Groundwater basin is bounded on the east by the Sand Hills and on the west by the impermeable rocks of the Fish Creek and Coyote Mountains. To the north, the basin is bounded by the Salton Sea, which is the discharge point for groundwater in the basin. Major hydrologic features include the Alamo and New Rivers, which flow north towards the Salton Sea. Per Table 2-5 of the Basin Plan, beneficial uses of groundwater within the Imperial Hydrologic Unit include: MUN – Municipal and Domestic Supply; IND – Industrial Service Supply. The MUN beneficial use for groundwater within the

Imperial Hydrologic Unit is limited only to a small portion of the ground water unit. Within the project area, groundwater is not used for municipal uses. Rather, all municipal and domestic water supply is obtained from the IID Canals.

Per Table 2-1 of the Basin Plan, IND is defined as a use of water for industrial activities that do not depend on water quality. Therefore, impacts from the Project on leading to a loss in beneficial uses of groundwater are not anticipated (Fuscoe 2018a).

C. PROJECT SITE

FEMA Zone

The Project is located within FEMA flood hazard Zone X. No portions of the Project Area are subject to inundation by the 100-year storm event (Fuscoe 2018a).

Hydrologic Setting

The perimeter of the Project site is surrounded by State Route 98, public roads, IID Canals, and IID Drains. Based upon review of topography and perimeter conditions, it is determined that the only offsite flow that enters the project originates from adjacent paved and unpaved roads; flow from adjacent agricultural fields does not enter the Project. As such, this study includes consideration of runoff from adjacent paved and unpaved roads, but runoff from adjacent fields entering the Project site limits need not be considered (Fuscoe 2018a).

Under existing conditions, two types of flow, agricultural and storm water are discharged to the IID Drains through a combination of surface runoff collection and subsurface tail water drain lines and perforated tile drain lines and sump pumps. During the life of the proposed Project, agricultural runoff from the Project site limits to the drains will cease and the drains will only receive storm water runoff (Fuscoe 2018a).

The Project site is underlain by a network of perforated tile drains (typically clay pipes). This network of tile drains was installed by prior landowners (farmers) to collect runoff that percolates into the soil. Tile drains will only be removed from the site if they are in conflict with proposed septic leach field systems or structures including but not limited to substations, Operation and Maintenance Buildings, gen-tie lines/transmission poles, and collection systems.

IID facilities that accept flow from the Project site include the Mt. Signal Drain, Mt. Signal Drain #1, Mt. Signal Drain #1A, Mt. Signal Drain #1B, Carr Drain and Brockman Drain #1. Mt. Signal Drain #1A, and Mt. Signal Drain #1B discharge into Mt. Signal Drain #1. Mt. Signal Drain #1, Carr Drain and Brockman Drain #1 all discharge into Mt. Signal Drain. Mt. Signal Drain discharges to the Greeson Drain approximately 0.9 miles north-east of the Project site (Fuscoe 2018a).

The IID drain system was not designed to convey runoff from large storm events. Rather, the primary purpose of the drains is to convey agricultural runoff. The Drains typically have the capacity to convey peak flow from the 5-year to 10-year storm event. Runoff from larger storm events (for example the 100-year event) is detained within low lying areas of agricultural fields until the peak of the storm has passed, after which the detained runoff is slowly discharged to the Drains via pipe connections from surface collection and/or tile drains that are typically 12 inches in diameter or less.

To mimic the existing condition and provide storage of storm water runoff, the County of Imperial requires that projects provide storage for three inches of runoff from Project sites. The County of Imperial further requires that storage areas provided with development be designed such that they are able to drain within 72 hours, either via infiltration or through discharge to IID Drains. If the 72-hour drawdown time cannot be satisfied due to low potential of soil infiltration or if a project developer chooses to not process for approval of discharge to the IID Drains, per County requirements, storage of five inches of runoff must be provided and a Mosquito Abatement Plan must be prepared for review and approval by the Environmental Health Department (Fuscoe 2018a).

In addition, should a project developer choose to process for approval of a discharge into the IID Drains, the IID does not allow pipe connections that are greater than 12 inches in diameter. The proposed Project will satisfy the requirements (three inches of runoff storage if designed to discharge into IID drains, or five inches of runoff storage if designed not to discharge into IID drains along with preparation of a Mosquito Abatement Plan) as they apply to final Project design (Fuscoe 2018a).

The Project site is divided into individual fields by existing canals, drains, public roads, and private roads that have multiple discharge points to the various IID drains. Based upon a review of the proposed Project phasing (refer to Figure 2.0-3, Project Description), the limits of each individual CUP Area encompass the entirety of individual fields and do not propose partial development of a field in any singular CUP Area. The phasing of the buildout of the CUP Areas can be performed in a manner that does not require diversion of runoff from one existing point of discharge to a different location. Should the Applicant choose to process for approval of discharge into the IID Drains, doing so will be consistent with existing drainage patterns, and phasing of the Project is feasible from a storm water runoff perspective (Fuscoe 2018a).

Precipitation

A precipitation estimate for the 100-year storm is obtained through referencing data available on the NOAA website for Imperial Valley. Storm duration of 24-hours is assumed, and the corresponding precipitation estimate is 3.79 inches (Fuscoe 2018).

Project Area

The Project site has been delineated into tributary drainage basins for the existing and proposed conditions (refer to **Appendix J**). Points of concentration in drainage basins are shown on this map. Ultimate points of discharge to the IID Drains for the existing and proposed conditions will be similar (Fuscoe 2018a).

The Project site is divided into ten watersheds that are tributary into five IID Drains. Drainage Area A tributary to the Mt. Signal Drain #1A, Drainage Areas B and D tributary to the Mt. Signal Drain #1, Drainage Areas C, E, F and H tributary to the Mt. Signal Drain, Drainage Area G tributary to the Brockman Drain #1, Drainage Areas I and J tributary to the Mt. Signal Drain #1B (Fuscoe 2018a).

Ultimately, all discharge from the Project site tributary to an IID Drain is discharged to the Greeson Drain (Full Build-out Scenario). Flow from the Greeson Drain is discharged to the New River approximately 4.2 miles north of the Project site. Under the proposed Phased CUP Scenario, the conveyance situation described above will remain (Fuscoe 2018a).

A. EXISTING CONDITIONS

Storm Water Runoff

Volumes of storm water runoff for the existing condition are provided in **Table 4.11-5**. The volume reported as "County Storage" is the volume based on three inches and five inches of runoff. The volume reported as "100-year Runoff" is the estimated volume anticipated based on a "C" factor of 0.3 and 100-year 24-hour precipitation of 3.79 inches. Each of the drainage basins given in **Table 4.11-5** are discharged directly to an IID Drain (Fuscoe 2018a).

TABLE 4.11-5
EXISTING CONDITIONS STORM WATER RUNOFF

Receiving Drain: Mt. Signal Drain #1A				
Drainage Area Name	Area (acres)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
A	72.1	18.0	30.0	6.8
TOTAL	72.1	18.0	30.0	6.8
Receiving Drain: Mt. Signal Drain #1B				
Drainage Area Name	Area (acres)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
I	83.0	20.8	34.6	7.9
J	79.2	19.8	33.0	7.5
TOTAL	162.2	40.6	37.6	15.4
Receiving Drain: Mt. Signal Drain #1				
Drainage Area Name	Area (acres)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
B	75.5	18.9	31.4	7.2
D	82.4	20.6	34.3	7.8
TOTAL	157.9	39.5	65.7	15.0
Receiving Drain: Brockman Drain #1				
Drainage Area Name	Area (acres)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
G	85.9	21.5	35.8	8.1
TOTAL	85.9	21.5	35.8	8.1
Receiving Drain: Mt. Signal Drain				
Drainage Area Name	Area (acres)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
C	83.8	21.0	34.9	7.9
E	89.5	22.4	37.3	8.5
F	84.9	21.2	35.4	8.0
H	79.7	19.9	33.2	7.6
TOTAL	337.9	84.5	140.8	32.0

Source: Fuscoe 2018; AF = acre-foot

Agricultural Runoff

In the existing condition, runoff from agricultural activities is discharged to the IID Drain system. The IID meters agricultural runoff to their Drain system. Metered values of agricultural runoff are not available, so an average annual volume of agricultural runoff from the Project site limits was not provided in the Conceptual Drainage Study and Storm Water Quality Analysis prepared for the proposed Project (Fuscoe 2018a).

However, in general, the average annual amount of water applied to fields and subsequently discharged to the Drain system from agricultural runoff is greater than that which is discharged from storm water runoff. For example, the average annual rainfall in Imperial Valley is approximately 2.9 inches (0.24 acre-feet per acre per year) and by contrast, alfalfa, the dominant crop grown in Imperial Valley, requires at least six acre-feet of irrigation water per acre per year under the surface/flood irrigation practices typically used at the site. The use of such flood irrigation practices results in annual agricultural runoff to the IID Drains that far exceeds the annual storm water runoff to the IID Drains (Fuscoe 2018a).

Groundwater Quality

Geographically, the Project site is located within the Imperial Groundwater Basin. The Imperial Valley Groundwater basin is bounded on the east by the Sand Hills and on the west by the impermeable rocks of the Fish Creek and Coyote Mountains. To the north, the basin is bounded by the Salton Sea, which is the discharge point for groundwater in the basin. Major hydrologic features include the Alamo and New Rivers, which flow north towards the Salton Sea (Fuscoe 2018a). Per Table 2-5 of the Basin Plan, beneficial uses of groundwater within the Imperial Hydrologic Unit include:

MUN – Municipal and Domestic Supply - The MUN beneficial use for groundwater within the Imperial Hydrologic Unit is limited only to a small portion of the ground water unit. Within the Project Area, groundwater is not used for municipal uses. Rather, all municipal and domestic water supply is obtained from the IID Canals (Fuscoe 2018a).

IND – Industrial Service Supply - Per Table 2-1 of the Basin Plan, IND is defined as a use of water for industrial activities that do not depend on water quality. Therefore, impacts from the proposed Project related to a loss in beneficial uses of groundwater are not anticipated (Fuscoe 2018a).

B. Potential Pollutants

There is no sampling data available for the existing Project site condition. The following constituents have commonly been found on agricultural areas and could potentially affect water quality (Fuscoe 2018a):

- Organic compounds found in pesticides used on agricultural fields
- Agricultural waste
- Loose sediments
- Excess nutrients from fertilizers

In addition to potential pollutants due to the existing agricultural land use, potential pollutants due to the proposed land use of a solar power station include the following:

- Heavy metals from infrastructure and vehicular use
- Trash and debris from human activity
- Oil and grease from vehicular use

Potential pollutants include:

- Sediment
- Heavy Metals
- Organic Compounds
- Trash & Debris
- Oxygen Demanding Substances
- Nutrients
- Oil & Grease

In examining these anticipated pollutants, the proposed Project has the potential to be a source of pollutants based on historic/existing land use and typical activities involved in operating a solar energy facility. Through proper planning and operation of the facility however, the concentrations can be reduced to levels which will not contribute to the impairment of beneficial uses in downstream surface waters. In addition, through the source control BMPs outlined in **Table 4.11-10**, below, the amounts of these pollutants will be reduced to the maximum extent practicable, through behavioral and programmatic means. **Table 4.11-6** provides the primary pollutants of concern for the Project site (Fuscoe 2018a).

TABLE 4.11-6
PRIMARY POLLUTANTS OF CONCERN

Primary Pollutants of Concern	Specific 303(D) Impairment
Sediment	Sedimentation/Siltation
Heavy Metals	Arsenic, Copper, Mercury, Selenium, Zinc
Oxygen Demanding Substances	Organic/Low DO
Trash and Debris	Trash
Organic Compounds	PCBs
Nutrients	Nutrients

Source: Fuscoe 2018a.

Sediment

Sediment can result from erosion during storm events, as well as from dust generated by wind erosion and vehicular traffic. Sediments increase the turbidity of the receiving waters and have the potential to adversely impact aquatic species.

Heavy Metals

The primary sources of metals in storm water are metals typically used in transportation, buildings and infrastructure and also paints, fuels, adhesives and coatings. Potential sources of heavy metals from the project include vehicular use, building construction, substation construction, gen-tie construction, energy storage construction, solar array construction, and underground pipes. Copper, lead, and zinc are the most prevalent metals typically found in runoff from these sources. Other trace metals, such as cadmium, chromium, manganese, and mercury are typically not detected in runoff from these sources or are detected at very low levels. Trace metals have the potential to cause toxic effects on aquatic life and are a potential source of groundwater contamination.

Oxygen Demanding Substances

Plant debris, food waste, and some chemical wastes fall into a category of water pollutants known as oxygen demanding substances. Such substances use dissolved oxygen in water when they decay or chemically react. If dissolved oxygen levels in water become too low, aquatic animals can become stressed or die. Animal wastes, food wastes, leaves and twigs, and other miscellaneous organic matter carried by storm water runoff into surface water can lead to reduced oxygen levels. Potential sources of oxygen demanding substances from the project include human use and landscaping. Slow-moving waters are particularly susceptible to oxygen depletion because aeration of the water by turbulence is lacking. Therefore, oxygen that is depleted in slow-moving waters due to the presence of excess organic matter or unnatural chemical compounds is not replaced. Reduced oxygen levels in these waters are often particularly severe after a storm.

Trash and Debris

Improperly disposed or handled trash (from human use of the site) such as paper, plastics and debris including biodegradable organic matter such as leaves, grass cuttings, and food waste can accumulate on the ground surface where it can be entrained in urban runoff. A large amount of trash and debris can have significant negative impacts on the recreational value of water body. Excessive organic matter can create a high biochemical oxygen demand in a stream and lower its water quality.

Organic Compounds

Organic compounds are carbon-based, and are typically found in pesticides, solvents and hydrocarbons.

Dirt, grease, and other particulates can also adsorb organic compounds in rinse water from cleaning objects, and can be harmful or hazardous to aquatic life either indirectly or directly. Organic compounds are therefore potentially present in runoff from the site due to prior agricultural use (pesticides), vehicular use (hydrocarbons and grease), and may be present in runoff during project operations due to washing of solar panels.

Nutrients

The primary sources of nutrients in storm water are fertilizers. Potential sources of nutrients from the project include historic agricultural land use and landscaping. Nitrogen and phosphorus are the most prevalent nutrients typically found in urban runoff. Failing septic tanks are also potential sources of nutrients in runoff.

4.11.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines, as listed in Appendix G. The Project would result in a significant impact to hydrology and water quality if it would result in any of the following:

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

   i) result in a substantial erosion or siltation on- or off-site;

   ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

   iii) create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or

   iv) impede or redirect flood flows.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The following Standard of Significance listed under Utilities and Services Systems is applicable to the discussion of site drainage. Thus, it is discussed in this section.

a) Require of result in the relocation or construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Several criteria were scoped out as part of the Initial Study.

Criterion "c iv" was scoped out because the Project Area is located within FEMA flood hazard Zone X which is defined as an area of minimal flood hazard. These areas are outside the Special Flood Hazard Area and are higher than the elevation of the 0.2-percent-annual-chance flood.

Criterion "d" was scoped out because the Project site is not in a flood hazard area. As noted for Criterion "c iv" above, the Project Area is in FEMA Zone X with very minimal potential for flooding. The Project is also approximately 28 miles from the Salton Sea, which is the nearest large water body. Due to the distance, the Salton Sea is does not pose a particularly significant danger of inundation from seiche or tsunami as related to the proposed Project site. Given low flood potential, there is no risk of release of pollutants due to inundation. This issue is not discussed further in this section.

Criterion "e" was scoped out because the Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Project would require a general NPDES permit and SWPPP during construction and implement BMPs during operation. These measures would protect water quality. No impact would occur with regard to a groundwater management plan as the Project would not disrupt groundwater infiltration or rely on groundwater for construction or operational water demand. Therefore, impacts to water quality control plan or sustainable groundwater management plan are not discussed further in this section.

C. METHODOLOGY

Hydrologic calculations in the *Drew Solar Conceptual Drainage Study and Storm Water Quality Analysis* were made in accordance with the following parameters/criteria (Refer to **Appendix J**; Fuscoe 2018a):

- The maximum volume of water to be detained will be equal to three-inch or five-inch of runoff from the project per County of Imperial Public Works Department (DPW) requirements.
- Should the Applicant or Individual CUP Area owner choose to discharge runoff from the project into the IID Drains, at final design a final hydrology study will be prepared and processed for approval with the IID. The final hydrology study will utilize standard industry practices that model factors such as runoff coefficient or curve number, infiltration into underlying soils, and flow in storm drain discharge pipes connected to the IID Drain system.
- Detention will be provided in shallow ponding areas within the project footprint or within designated detention basins outside arrays, or combination of both.
- Infiltration of runoff into native soils is preferred, where percolation rates allow.
- Discharge of runoff to IID Drains via 12" storm drain connection per IID standards for connection of private facilities may be utilized. Existing surface connection points to the IID Drain system will remain in their existing location and continue to be used if possible, be relocated as necessary, or be cut and capped if no longer needed. Addition of connection points to the IID Drain system is not proposed.
- The volume of runoff from the 100-year storm is calculated by the Rational Method with weighted C value.
- Information gained from the National Resource Conservation Service (NRCS) website is used to determine hydrologic soil classification.
- National Oceanic and Atmospheric Administration (NOAA) precipitation data is used for determination of the 100-year storm rainfall.

Refer to Appendix C of the *Drew Solar Conceptual Drainage Study and Storm Water Quality Analysis* (**Appendix J**) for reference material pertaining to County standards and Rational Method parameters (including runoff coefficient). The modeling of runoff and routing of flow through proposed detention areas/basins will be provided at the time of final design. Said modeling and routing is beyond the scope of this conceptual study and is dependent upon and will consider factors such as infiltration rates of underlying soils, flow in pipes discharging to the IID Drain system, final site development area, and final site finished ground topography.

Project Impacts and Mitigation Measures

Violate Water Quality Standards or Waste Discharge Requirements

Impact 4.11.1 Implementation of the proposed Project, whether under the Full Build-out Scenario or phased by CUP Area under the Phased CUP Scenario, would generate small amounts of runoff during construction, operation and decommissioning. The Project would comply with all applicable water quality regulations and implement Applicant-proposed BMPs in order to meet water quality standards and waste discharge requirements. Therefore, this impact is considered **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

As a result of the recommended site design and source control measures, and the provision of shallow ponding areas and/or detention basins, water quality exceedances are not anticipated. Groundwater is not used at/near the Project site or for beneficial uses. Pollutants are not expected within Project runoff that would adversely affect beneficial uses in downstream receiving surface waters. Although specific County of Imperial regulations regarding storm water NPDES and new development do not exist, the project design features (settling ponds and/or detention basins) and implementation of BMPs pursuant to the Construction General Permit (Refer to Table 2.0-6 in Chapter 2.0, Project Description) will serve to limit discharges of pollutants to comply with the requirements of the General Permit. The Project would not impede sustainable groundwater management of the Imperial Groundwater Basin as it would not use groundwater or inhibit groundwater recharge. Therefore, the *Drew Solar Conceptual Drainage Study and Storm Water Quality Analysis* concluded that this issue is considered a **less than significant** impact under both the Full Build-out Scenario and Phased CUP Scenario (Fuscoe 2018a, p. 28).

Construction

Construction of the Project includes site preparation, foundation construction, erection of major equipment and structures, installation of piping, electrical systems, control systems and start-up/testing. In addition, the construction of transmission lines, utility pole pads, conductors, and associated structures will be required.

During the construction phase, sedimentation and erosion can occur because of tracking from earthmoving equipment, erosion and subsequent runoff of soil, and improperly designed stockpiles. The utilization of proper erosion and sediment control BMPs is critical in preventing discharge to surface waters/drains. The Project proposes to employ proper SWPPP practices to minimize any discharges in order to meet the Best Available Technology/Best Conventional Technology (BAT/BCT) standard set forth in the Construction General Permit (CGP).

Although the Project site is relatively flat, the large amount of potential disturbed area results in the potential for erosion/sediment issues. In addition to erosion and sedimentation, the use of materials such as fuels, solvents, and paints has the potential to affect surface water quality. Many different types of hazardous compounds will be used during the construction phase, with proper containment being of high importance. Poorly managed construction materials can lead to the possibility for exposure of potential contaminants to precipitation. When this occurs, these visible and/or non-visible constituents become entrained in storm water runoff. If they are not intercepted or are left uncontrolled, the polluted runoff would otherwise freely sheet flow from the Project site to the IID Drains and could cause pollution accumulation in the receiving waters (Fuscoe 2018a, p. 19). **Table 4.11-7** provides a list of anticipated construction materials and their corresponding construction activity.

Prior to the beginning of construction, a complete SWPPP will be provided to show evidence that the development of the project will comply with the CGP and associated local NPDES regulations. Also, in accordance with the CGP, a Notice of Intent (NOI) for coverage of projects under the CGP will be filed with the SWRCB. The Waste Discharge Identification (WDID) Number will be issued to the Project before any land disturbance may begin. If the Project is constructed in multiple phases, a NOI will be filed for each phase of construction. Accordingly, the SWPPP will be implemented at the Project site, and revised as necessary, as administrative or physical conditions change. The Region 7 Colorado River Basin RWQCB, upon request, must instruct the developer to make the SWPPP available for public review. The SWPPP will fully describe Best Management Practices (BMPs) that address pollutant source

reduction and provide measures/controls necessary to mitigate potential pollutant sources. These include, but are not limited to: erosion controls, sediment controls, tracking controls, non-storm water management, materials and waste management, and good housekeeping practices. The above-mentioned BMPs for construction activities are discussed further below. The SWPPP will be prepared by a Qualified SWPPP Developer (QSD) and implemented at the site under the review/direction of a Qualified SWPPP Practitioner (QSP). Upon compliance with these regulatory requirements, Project Design Features, and Project-Proponent proposed mitigation measures, construction of the Project, under both the Full Build-out Scenario and Phased CUP Scenario, would result in a **less than significant impact** with regard to violating Water Quality Standards or Waste Discharge Requirements (Fuscoe 2018a, p. 19-20).

TABLE 4.11-7
POTENTIAL CONSTRUCTION RELATED POLLUTANTS

Construction Activity	Construction Site Material	Visually Observable?
Paving	Hot Asphalt	Yes - Rainbow Surface or Brown Suspension
	Asphalt Emulsion	
	Liquid Asphalt (tack coat)	
	Cold Mix	
	Crumb Rubber	Yes – Black, solid material
	Asphalt Concrete (Any Type)	Yes - Rainbow Surface or Brown Suspension
Substation and Transmission	Gasoline/Diesel	No
Line Construction	Mineral and Crankcase Oil	
	Lubricants	
	Cleaning Solvents	
Equipment Cleaning	Acids	No
	Bleaches	
	Detergents	Yes - Foam
	Solvents	No
Concrete Work	Portland Cement (PCC)	Yes - Milky Liquid
	Masonry products	No
	Sealant (Methyl Methacrylate – MMA)	No
	Incinerator Bottom Ash, bottom Ash, Steel Slag, Foundry Sand, Fly Ash, Municipal Solid Waste	No
	Mortar	Yes - Milky Liquid
	Concrete Rinse Water	Yes - Milky Liquid
	Non-Pigmented Curing Compounds	No
	Lime	No
Painting	Paint	Yes
	Paint Strippers	No
	Resins	
	Sealants	

TABLE 4.11-7
POTENTIAL CONSTRUCTION RELATED POLLUTANTS

Construction Activity	Construction Site Material	Visually Observable?
	Solvents	
	Lacquers, Varnish, Enamels, and Turpentine	
	Thinners	
	Portable Toilet Waste	Yes
	Adhesives	No
Dust Control	Water	No
	Liquid Polymer or Polymer Blend	No
Vehicle Maintenance	Antifreeze and Other Vehicle Fluids	Yes – Colored Liquid
	Batteries	No
	Fuels, Oils, Lubricants	Yes - Rainbow Surface Sheen and Odor
Soil Amendment/Stabilization	Polymer/Copolymer	No
	Quicklime	No
	Herbicide, Pesticide	No
	Lignin Sulfonate	No
	Psyllium	
	Guar/Plant Gums	
	Gypsum	
Wood (Treated) Work	Ammoniacal-Copper-Zine0Arsenat, Copper-Chromium-Arsenic, Ammoniacal-Copper Arsenate, Copper Naphthenate	No
	Creosote	Yes -Rainbow Surface or Brown Suspension

Source: Fuscoe 2018a.

Operation

Solar modules may be washed on a periodic basis, up to four times per year, if determined to be beneficial to the Project. Approximately 14 acre-feet of water per year of the 60 acre-feet of water per year required for Project operations and maintenance will be used for panel washing. Fire protection is estimated to be one acre-foot of water per year, sanitary water is estimated to be five acre-feet of water per year, dust suppression is estimated to be 35 acre-feet of water per year, and potable water is estimated to be five acre-feet of water per year (Fuscoe 2018b, p. 39).

Panel washing activities (if they occur) are not anticipated to generate runoff or contain pollutants (e.g., grease, heavy metals) other than dust and perhaps trace amounts of pesticide drift that may have accumulated on the panels from neighboring parcels that are in active agricultural production. Any runoff from panel washing would evaporate or percolate through the ground, as a majority of the surfaces in the solar field would remain pervious.

The Project would be designed to include BMPs (source control BMPs and Treatment Control BMPs) which would reduce runoff, and prevent water pollution associated with Project operations (refer to **Table 2.0-6** and **Table 4.11-8**). During operation, quality of runoff would also be controlled in accordance with County standards, such as implementation of a Dust Control Plan (Rule 801) (discussed further in Section 4.4, Air Quality). Proposed BMPs to be implemented during Project operations are discussed below.

The Applicant / CUP Area owners will maintain all on-site site design, source control, and treatment control features.

Post-Construction BMPs

Post-construction BMPs will be maintained for the life of the Project. Maintenance requirements for source control BMPs as well as treatment control BMPs are shown below in **Table 4.11-8**. Preventative maintenance such as removal of trash and debris from the Project site will help ensure proper function of the BMPs.

TABLE 4.11-8
O&M BMP SUMMARY

SUMMARY OF BMP O&M	
BMP Name	**Frequency**
Design Trash Storage Areas to Reduce Pollution Introduction	Inspect Monthly
Activity Restrictions	Review Bi-Yearly
Non-Storm Water Discharges	Review Bi-Yearly
Outdoor Loading And Unloading	Supervisors/Workers Shall Monitor Continuously
Spill Prevention, Control, And Cleanup	Supervisors/Workers Shall Monitor Continuously
Education	Review and Distribute Bi-Yearly
Integrated Pest Management	Review Protocols and Educate Bi-Yearly
Waste Handling and Disposal	Inspect Monthly
Vehicle And Equipment Fueling, Cleaning, and Repair	Inspect/Review Monthly
Hazardous Material Management	Supervisors/Workers Shall Monitor Continuously
Detention Basins	Inspect Quarterly

Source: Fuscoe 2018a.

Maintenance of the Project site will be conducted by the Applicant / CUP Area owners. All construction and post construction BMPs will be the responsibility of the owner for the life of the Project. The Applicant / CUP Area owners are required to perform maintenance for the life of the Project, keeping maintenance records for submittal to the County of Imperial and Regional Water Quality Control Board, if requested. In addition, the following maintenance activities will be conducted.

- Continued education of staff responsible for hazardous material hauling, loading, and use.
- Periodic visual monitoring to ensure materials are not contaminating areas exposed to storm water.

If an ownership transfer of the Project site or individual CUP Area occurs, the Applicant / CUP Area owner will notify the County of Imperial, and the Region 7 Colorado River Basin Regional Water Quality Control Board. The new owner will assume all responsibilities for BMP maintenance.

Treatment Control BMPs

As discussed above, runoff from the Project would be directed towards on-site detention basins and/or shallow ponding areas to meet the County requirements for storage of three inches of runoff within the Project limits. Ultimate locations and limits of detention basins will be determined at the time of final engineering. The detention basin/ponding areas would either drain through infiltration into the underlying soils or through a connection to the IID drain system. Runoff from the Project would either be infiltrated or drain to the IID system within 72 hours. Precise drawdown times and outlet configurations would be determined during final engineering. The detention basins/ponding area would also have the capacity to store and infiltrate runoff from the more frequent storm events, which typically lead to storm water quality concerns (Fuscoe 2018a, p. 26).

Non-Stormwater Management Controls

Non-storm water discharges consist of all discharges from a municipal storm water conveyance which do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Non-storm water discharges also include vehicle equipment cleaning, fueling, and maintenance. Operations activities at the Solar Field Site Parcels may involve the use of heavy equipment and hazardous materials as well as application of water for panel washing and dust control. Dust control watering during construction of both the Full Build-out Scenario and the Phased CUP Scenario would be classified as having potential for discharge of non-storm water pollutants. Adequate BMPs and protections would be in place at all times (Fuscoe 2018a, p. 22).

Further, each CUP Area property owner would be responsible for operation and maintenance of site design, source control, and treatment control BMPs. Each CUP Area property owner would also be responsible for long-term funding for BMP maintenance. In addition, the County of Imperial would require access to each CUP Area for inspection through a formal agreement to ensure that each CUP Area owner is properly carrying out the BMPs over the life of the Project, as would be ensured through the County's Conditions of Approval for each CUP.

Upon implementation of recommended site design and source control measures and the provision of shallow ponding areas, water quality exceedances are not anticipated under the Full Build-out Scenario or Phased CUP Scenario. Pollutants within Project runoff are not expected to adversely affect beneficial uses in downstream receiving waters or groundwater. If the Phased CUP Scenario is implemented, each phase would comply with a Project-specific SWPPP or submit a SWPPP and comply with a SWPPP specific to each CUP Area. Compliance with these requirements would be ensured through the Conditions of Approval for each CUP. Therefore, the Project would result in a **less than significant impact** to water quality during operation of both the Full Build-out Scenario and the Phased CUP Scenario (Fuscoe 2018a, p. 28-29).

Decommissioning/Reclamation

Decommissioning activities that could affect water quality at each CUP Area include excavation and other earth-moving activities associated with the demolition, excavation, and removal of Project structures and solar panel foundations, as well as grading/soil improvement activities associates with the reclamation of the site for agricultural uses. As compliance with regulations in place at the time of decommissioning would be mandatory, it is anticipated that decommissioning activities under both the Full Build-out Scenario and the Phased CUP Scenario would result in a **less than significant** impact to water quality.

Mitigation Measures

None required.

Significance after Mitigation

Not applicable.

Result in Decreased Groundwater Supplies or Interfere Substantially with Groundwater Recharge

Impact 4.11.2 Project implementation under both the Full Build-out Scenario and the Phased CUP Scenario would not impact groundwater supply as the Project does not propose use of groundwater. During construction and decommissioning, there is a small potential for encountering groundwater while excavating for structure foundations or Gen-Tie footings. If groundwater is encountered, it would be contained locally in the vicinity of Gen-Tie pole locations and substation foundations. The CUP Areas would largely remain pervious during Project operation. Therefore, impacts associated with decreasing groundwater supplies or interfering with groundwater recharge are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

The Project does not propose the use of groundwater during construction. However, a slight potential exists for encountering groundwater during construction. The groundwater in the Project Area is typically encountered at a depth of approximately five feet below ground surface (Landmark 2018). Potential construction activities that may require dewatering include: excavation activities associated with the construction of footings and foundations for the O&M buildings; construction of new Gen-Tie poles within the Project Area; and construction of the on-site overhead collection system poles. During the construction phase, a significant amount of construction dewatering is not expected to be required. Any groundwater that is encountered would be pumped to the surface and discharged on-site in accordance with applicable County and RWQCB requirements.

The existing site grade and drainage of each solar field site parcel would be retained or improved as part of construction. Further, minimal storm drains would be constructed. The impervious areas would drain on-site and be allowed to pond in the detention basins and/or ponding areas under the arrays. Therefore, under both the Full Build-out Scenario and the Phased CUP Scenario impacts related to groundwater supply and recharge would be **less than significant** during Project construction.

Operation

The Project does not propose the use of groundwater or contain components that would adversely affect groundwater recharge during operation. Groundwater recharge in the Project Area would not be significantly affected due to the fact that the majority of each CUP would feature a pervious landscape. Detention basins and shallow ponding areas would also provide infiltration and groundwater recharge. No pumping of groundwater is anticipated during Project operation. Further, overall water demand during operation under both the Full Build-out Scenario and Phased CUP Scenario is expected to be much less than the needs of the existing agricultural land use (Fuscoe 2018b, p. 42). Therefore, both the Full Build-out Scenario and the Phased CUP Scenario would result in a **less than significant** impact to groundwater supply and recharge during Project operation.

Decommissioning/Reclamation

Decommissioning would result in the dismantling and removal of infrastructure constructed as part of the proposed Project. Removal of Project structures and infrastructure would result in an increase in the amount of pervious surface at each solar field site parcel and the Project Area as a whole. Groundwater may be encountered during the removal of footings and foundations for the O&M buildings or overhead Gen-Tie poles. Dewatering associated with removal of these structures would be localized to transmission pole locations and building locations and would not result in a significant decrease in production rates of existing or planned wells. Therefore, under both the Full Build-out Scenario and the Phased CUP Scenario a **less than significant** impact to groundwater supply and recharge would occur during Project decommissioning. Likewise, groundwater is not anticipated to be used as part of reclamation.

Mitigation Measures

None required.

Significance after Mitigation

Not applicable.

Result in Substantial Erosion or Siltation On- or Off-site

Impact 4.11.3 During construction, operation and maintenance and decommissioning activities, the Project shall comply with a Project-specific SWPPP, file for coverage under the construction and operational NPDES permits and comply with all other applicable State and local regulations. Therefore, under both the Full Build-out Scenario and Phased CUP Scenario, Project implementation would result in a **less than significant** impact regarding earth disturbance and potential for erosion and loss of top soil.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Soil erosion could result during construction of the proposed Solar Energy Generation Component, Energy Storage Component, and Drew Switchyard and Gen-Tie Lines in association with grading and earthmoving activities under both the Full Build-out Scenario and Phased CUP Scenario. The solar field site parcels consist of agricultural land voice of structures with the exception of IID and landowner irrigation facilities

The solar field site parcels would be disturbed by construction activities such as grading and clearing as a part of site preparation. To the extent feasible, site preparation would be planned and designed to minimize the amount of earth movement. Compaction of the soil to support building and traffic loads as well as the PV module supports may be required and is dependent on final engineering design. During

construction, erosion would be controlled in accordance with County standards which include preparation, review and approval of a grading plan by the County Engineer; implementation of a Dust Control Plan (Rule 801) (discussed further in Section 4.4, Air Quality); and compliance with the NPDES GCP. Imperial County requires 100 percent detention of the runoff associated with the site, assuming zero percolation into the ground. The Project proposes on-site detention basins designed and sized to capture storm water as if none of it would penetrate into the ground. Consequently, any erosion associated with storm water runoff would be captured in the on-site detention basins.

In addition, the Project would prepare a SWPPP in accordance with SWRCB requirements and incorporate approved erosion and sedimentation control BMPs as described below and in **Table 2.0-6** of the Project Description:

Erosion Control BMPs

- Erosion Control, also referred to as soil
- EC-2 Preservation of Existing Vegetation
- EC-5 Soil Binders
- EC-6 Straw Mulch
- EC-7 Geotextiles and Mats
- EC-8 Wood Mulching
- EC-9 Earth Dikes and Swales
- EC-10 Velocity Dissipation Devices
- EC-11 Slope Drains

Sediment Control BMPs

Sediment controls are structural measures that are intended to complement and enhance the soil stabilization/erosion control measures and reduce sediment discharges from construction areas. Sediment controls are designed to intercept and filter out soil particles that have been detached and transported by the force of water. In addition, silt fencing will be installed along the perimeter of work areas upstream of discharge points, and will also be placed around stockpiles, and areas of soil disturbance. Check dams or chevrons will be situated in areas where high velocity runoff is anticipated/potential (such as in drainage ditches/swales). Gravel bag berms or fiber rolls should be used to intercept sheet flows on streets or at the toe of slopes (such as along streets or canal and drain access roads) to minimize sediment mobilization. Street sweeping will also be scheduled in areas where sediment can be tracked from the Project site onto paved streets or roads. Below is a list of approved construction BMPs that can be implemented for the proposed Project's SWPPP (Fuscoe 2018a, p. 21):

- SE-1 Silt Fence
- SE-2 Desilting Basin (Detention Basins)
- SE-3 Sediment Trap
- SE-4 Check Dam
- SE-5 Fiber Rolls
- SE-6 Gravel Bag Berm
- SE-7 Street Sweeping
- SE-8 Sandbag Barrier
- SE-9 Straw Bale Barrier
- SE-10 Chemical Treatment
- SE-11 Chemical Treatment

Tracking Controls

The proposed Project site will stabilize all construction entrance/exit points to reduce the tracking of sediments onto paved streets and roads by construction vehicles. Construction roadways should also be stabilized to minimize off-site tracking of mud and dirt. Wind erosion controls will be employed in conjunction with tracking controls. Below is a list of approved construction BMPs that can be implemented for the proposed Project's SWPPP (Fuscoe 2018, p. 22):

- TC-1 Stabilized Construction Entrance/Exit
- TC-2 Stabilized Construction Roadway
- TC-3 Entrance/Outlet Tire Wash
- WE-1 Wind Erosion Control

Non-Storm Water Management Controls

Non-storm water discharges consist of all discharges from a municipal storm water conveyance which do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Paving and grinding operations on the Project site, along with any operations which involve using water on landscape are classified as having potential for non-storm water pollutants. This also includes illegal connection and dumping on the construction site, vehicle equipment cleaning, fueling, and maintenance. The construction of the Project would involve the use of heavy equipment

and some hazardous materials. Adequate BMPs and protections will be in place at all times (Fuscoe 2018, p. 22):

- NS-2 Dewatering Operations
- NS-3 Paving and Grinding Operations
- NS-4 Temporary Stream Crossing
- NS-5 Clear Water Diversion
- NS-6 IC/ID Detection and Reporting
- NS-7 Potable Water / Irrigation
- NS-8 Vehicle & Equipment Cleaning
- NS-10 Vehicle & Equipment Maintenance
- NS-11 Pile Driving Operations
- NS-12 Concrete Curing
- NS-13 Concrete Finishing
- NS-14 Material Use Over Water
- NS-15 Demolition Over Water
- NS-16 Temporary Batch Plants

Materials and Waste Management

Waste management consists of implementing procedural and structural BMPs for collecting, handling, storing and disposing of wastes generated by a construction Project to prevent the release of waste materials into storm water discharges. All materials with the potential to contaminate storm water runoff should be delivered and stored in designated areas with secondary containment measures (i.e. covered and bermed). Chemicals, drums, and bagged materials will not be stored directly on soil, but on pallets instead. Personnel will also be trained on the proper use of the materials. Construction staging areas will be located on the site. These areas will include construction yards that serve as field offices, reporting locations for workers, parking space for vehicles and equipment, and sites for material storage. Facilities will be fenced as necessary. Security guards will be stationed where needed.

A temporary barrier around stockpiles should be installed and a cover provided during the rainy season. Spill cleanup procedures and kits should be made readily available near hazardous materials and waste. Solid wastes, such as trash and debris, should be collected on a regular basis and stored in designated areas. Concrete and paint washout areas should be installed and properly maintained in areas conducting the associated activities. Below is a list of approved waste management construction BMPs that can be implemented for the proposed Project's SWPPP (Fuscoe 2018, p. 22-23):

- WM-1 Material Delivery & Storage
- WM-2 Material Use
- WM-3 Stockpile Management
- WM-4 Spill Prevention and Control
- WM-5 Solid Waste Management
- WM-6 Hazardous Waste
- WM-7 Contaminated Soil
- WM-8 Concrete Waste
- WM-9 Sanitary / Septic Waste
- WM-6 Hazardous Waste

Monitoring Program

A monitoring program will also be included in the SWPPP that outlines storm event inspections of the Project site and a sampling plan in accordance with the CGP. The monitoring program will be prepared by a QSD and implemented at the site under the review/direction of a QSP. The goals of the program are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate, properly installed, and functioning in accordance with the terms of the CGP; and (3) whether additional control practices or corrective maintenance activities are needed. If a discharge is observed during these inspections, a sampling and analysis of the discharge is required as follows:

> *"Any breach, malfunction, leakage, or spill observed which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water shall trigger the collection of a sample of discharge…The goal of the sampling and analysis is to determine whether the BMPs employed and maintained on site are effective in preventing the potential pollutants from coming in contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. In any case of breakage and potential for non-visible pollution, sampling and analysis will be required to ensure that the beneficial uses of downstream receiving waters are protected. In addition, sampling is required for any site which directly discharges runoff into a receiving water listed in the CGP listed as impaired for sedimentation"* (Fuscoe 2008a, p.22).

Upon implementation of recommended erosion and sediment control measures, the provision of detention facilities at each CUP Area, and compliance with SWPPP requirements, erosion and sedimentation are not anticipated to occur as a result of Project construction under the Full Build-out Scenario or as proposed by individual CUP Area under the Phased CUP Scenario. Potential construction impacts relative to soil erosion and sedimentation during construction under both the Full Build-out Scenario and the Phased CUP Scenario would be **less than significant**.

Operation

Daily operations and routine maintenance (such as occasional PV panel washing) are not anticipated to increase erosion. During operational activities, soil erosion and sedimentation throughout the Solar Energy Generation Component, Energy Storage Component, and Drew Switchyard and Gen-Tie Lines would be controlled in accordance with NPDES GCP(s) and Project-specific SWPPP(s) prepared for the Full Build-out Scenario or by each individual CUP Area (if the Project is constructed under the Phased CUP Scenario), as applicable. Compliance with these requirements would be ensured through the Conditions of Approval for each CUP. The Project site would remain largely impervious over the operational life of the project. Therefore, potential soil erosion impacts occurring during Project operation under both the Full Build-out Scenario and the Phased CUP Scenario would be **less than significant**.

Site Design BMPs

The Project is designed to include Site Design BMPs which reduce runoff, prevent storm water pollution associated with the Project, and conserve natural areas onsite (Fuscoe 2018a, p. 24). **Table 4.11-9** lists the various Site Design BMPs.

TABLE 4.11-9
SITE DESIGN BMPS

	Design Concept	Description
#1	Minimize Impervious Footprint	The Project site will include a significant amount of undeveloped land and pervious area. The footprint for the solar arrays will be predominately pervious ground. A minimal amount of Class II base paving for access roads and parking will be constructed. Asphaltic concrete (AC) paving of driveway connections to public roads may be required per County of Imperial standards, however the limit of paving will be kept to the minimum amount required by the County. The County may also require additional paving on some public roads in accordance with PM10 requirements, but the amount of paving will be limited to the areas required by County.

TABLE 4.11-9
SITE DESIGN BMPS

	Design Concept	Description
#2	Conserve Natural Areas	Only a small amount of existing site area can be classified as natural landscape, and will only be disturbed in necessary areas at the Project.
#3	Protect Slopes and Channels	The Project site and surrounding areas is comprised of extremely flat topography. Erosion of slopes due to stabilization problems is not a concern.
#4	Minimize DCIAs (Directly Connected Impervious Areas)	Minimal storm drain will be constructed onsite. The impervious areas will drain and will be allowed to pond in the detention basins and/or under the arrays. This will effectively limit all DCIAs on the Project site.

Source: Fuscoe 2018a.

Source Control BMPs

"Source control BMPs (both structural and non-structural)" means land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source Control BMPs minimize the contact between pollutants and urban runoff. **Table 4.11-10** identifies source control BMPs that would be applicable to the proposed Project (Fuscoe 2018a, p. 24-25).

TABLE 4.11-10
SOURCE CONTROL BMPS

	Source Control BMP	Description
#1	Design Trash Storage Areas to Reduce Pollution Introduction	Any outdoor trash storage areas will be designed not to allow run-on from adjoining areas, screened or walled to prevent off-site transport of trash.
#2	Activity Restrictions	Restrictions include activities that have the potential to create adverse impacts on water quality.
#3	Non-Storm Water Discharges	Illegal dumping educational materials as well as spill response materials will be provided to employees.
#4	Outdoor Loading and Unloading	Material handling will be conducted in a manner as to prevent any storm water pollution.
#5	Spill Prevention, Control, And Cleanup	The Project may require a Spill Prevention, Control, and Countermeasure (SPCC) Plan, and a Hazardous Materials Business Plan in accordance with Federal, State, or Local requirements.
#6	Education	Employees will receive materials for storm water pollution prevention in the form of brochures and other information in a format approved by the County of Imperial.
#7	Integrated Pest Management	If any pesticide is required onsite, the need for pesticide use in the Project design will be reduced by:

TABLE 4.11-10
SOURCE CONTROL BMPS

	Source Control BMP	Description
#8	Vehicle And Equipment Fueling, Cleaning, and Repair	All vehicles will be serviced offsite whenever possible. If servicing is required onsite, it must be conducted in an area isolated from storm drain inlets or drainage ditch inlets. The area must be bermed and precluded from run on. Any spillage must be fully contained and captured and disposed of per County of Imperial Hazardous Waste requirements.
#9	Waste Handling and Disposal	Materials will be disposed of in accordance with Imperial County Hazardous Material Management guidelines, and will be sent to appropriate disposal facilities. Under no circumstances shall any waste or hazardous materials be stored outside without secondary containment.

Source: Fuscoe 2018a, p. 25.

In addition to Source Control BMPs discussed above, specific precautions will be taken when handling, storing or processing any materials during all phases of the proposed Project. The utmost care and planning will be taken when using materials outside, and near any storm drain/drainage ditch inlets.

Treatment Control BMPs

As discussed in the Hydrologic Analysis, runoff from the Project will be directed towards shallow ponding areas to meet the County requirements for storage of three inches or five inches of runoff within the project limits. The ponding areas will either drain through infiltration into the underlying soils or through a connection to the IID drain system, or be managed in accordance with the project's Mosquito Abatement Plan. As discussed previously, the County required three inches of runoff capacity from the Project will either be infiltrated or drain to the IID system within 72 hours. In a case of low potential for infiltration, and the potential desire to avoid connecting the project's runoff to the IID Drain system, retention requirements over the Project site will be satisfied by ponded area under the arrays such that the County of Imperial requirement of five inches of retention over the Project site will be satisfied. It is anticipated that stored runoff under the arrays will not drawdown in under 72 hours. Precise drawdown times and outlet configurations will be determined at the time of final engineering (Fuscoe 2018a, p. 26).

The ponding areas will also have the capacity to store runoff from the more frequent storm events, which typically lead to storm water quality concerns. The runoff volume for the water quality storm event was calculated based on the Urban Runoff Quality Management Approach outlined in the California Stormwater BMP Handbook for New Development and Redevelopment. The County required runoff volume will be designed to either infiltrate or drain to the IID system. Therefore, the basins are deemed adequate as treatment control BMPs for the Project (Fuscoe 2018a, p. 26).

Decommissioning/Reclamation

During decommissioning, soil erosion and would be controlled in accordance with NPDES GCP(s) and Project-specific SWPPP(s) prepared for both the Full Build-out Scenario and the Phased CUP Scenario). Decommissioning activities would require earth-moving activities that could contribute to soil erosion and/or release of sediment. Earth-moving activities would be typical of most construction sites and temporary in nature. During decommissioning, each CUP Area owner would continue to be responsible for implementing and funding BMPs as required by in accordance with Applicant-proposed design and

BMP measures. Further, compliance with requirements and BACTs in place at the time of decommissioning are anticipated to be similar to, or more stringent than, those currently required. Therefore, a **less than significant** impact regarding soil erosion and sedimentation would occur during Project decommissioning under the Full Build-out Scenario and as proposed by CUP Area under the Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Alteration of Drainage Pattern Substantially Increasing Surface Runoff/Construction of Stormwater Drainage

Impact 4.11.4 Upon Project implementation under both the Full Build-out Scenario and Phased CUP Scenario, Project site drainage patterns and the general drainage system will remain similar to the existing condition. Runoff will follow existing drainage patterns to proposed basins/ponding areas for detention and infiltration with storm flows conveyed toward existing IID Drains. Project implementation will also result in less run-off from the Project site as compared to the existing agricultural uses. Therefore, Project implementation would result in a **less than significant impact** with regard to substantially altering the existing drainage pattern in a manner which would result in flooding on- or off-site under both the Full Build-out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning/Reclamation

The proposed drainage patterns and general drainage system for the Project remain similar to existing conditions. The Project would not require or result in relocaito or construction of new or expanded storm water drainage facilities which would cause significant environmental effects. Basins will be constructed and drainage will be routed to these basins for detention and infiltration. The remainder of the solar field site parcels will follow existing drainage patterns, with storm flows conveyed toward existing IID Drains. Due to the postponement of agricultural irrigation during the operation life of the Project, the annual runoff from the Project site is anticipated to decrease in comparison to the existing condition which is similar to agricultural fields being fallowed and/or abandoned. As such, whether the Project is built at one time over an 18-month period (Full Build-out Scenario) or over five phases over a period of up to 10 years (Phased CUP Scenario) or one phase (Full Build-out Scenario), the Project can be constructed without substantial change to existing drainage patterns (Fuscoe 2018a, p. 29). The Project would not produce runoff that would result in flooding either on- or off-site. At the end of the Project's operational life, the Project will be decommissioned and the components removed. Drainage patterns would be substantially unchanged during decommissioning and would remain similar upon reclamation. Therefore, Project implementation would result in a **less than significant impact** to the existing drainage pattern or substantial erosion or siltation on- or off-site under both the Full Build-out Scenario and Phased CUP Scenario during construction, operation and decommissioning. The drainage pattern would be similar to pre-Project conditions upon reclamation.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

Create or Contribute Runoff Exceeding Capacity/Provide Substantial Sources of Polluted Runoff

Impact 4.11.5 Implementation of the proposed Project would generate on-site runoff throughout the Project site as a whole under the Full Build-out Scenario and at each of the six CUP Areas if constructed under the Phased CUP Scenario. Alteration of the existing drainage pattern would not alter the course of a stream or river nor would the Project create additional sources of polluted runoff. Existing drainage patterns would be maintained and the surface of each CUP Area would remain mostly pervious. Sufficient capacity to collect on-site runoff is available in receiving IID drains and proposed on-site ponding areas/detention basins. Therefore, impacts associated with exceedance of existing or planned stormwater drainage systems capacity or providing additional sources of polluted runoff are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning/Reclamation

Storm Water Runoff

Under proposed conditions, the existing drainage characteristics of the Project site will remain substantially the same. Existing low-lying areas which receive runoff will continue to do so in the proposed conditions. As discussed above under Hydrologic Setting, some on-site soils may have the potential to infiltrate runoff. Where this is the case, runoff will be infiltrated. Where infiltration is not feasible, runoff may be detained and slowly released to the IID Drain system such that the peak flowrate of runoff from the 100-year storm event in the proposed condition is equal to or less than it is in the existing condition. Should the Applicant choose, a final option available is to terminate runoff from the Project site to the IID Drains and retain a greater volume of water in accordance with County requirements. Therefore, there will be no resultant hydraulic impact to IID Drains as a result of Project implementation (Fuscoe 2018a, p. 8).

To enable the development of the solar arrays, private dirt roads and ditches within the Project site will be re-graded as necessary, and, if necessary, cultivated areas may be re-graded to provide smooth transitions across arrays and to produce positive surface drainage to the designated shallow ponding areas, which will provide storm water detention. A private perimeter access road will be constructed around the arrays. As discussed previously, this conceptual study calculates a maximum volume of runoff that may be detained in accordance with the County standard of three inches or five inches of runoff within the Project site. Detention requirements over the Project site will be satisfied by ponding areas within the Project footprint or within designated detention basins outside arrays, or combination of both. At the time of final design and engineering, a final hydrology study will be prepared and processed for approval with DPW utilizing standard industry practice that models factors such as runoff coefficient or curve number, infiltration into underlying soils, and flow in storm drain discharge pipes connected to the IID Drain system. Ultimate locations, volumes, and limits of detention basins will be determined at the time of final engineering (Fuscoe 2018a, p. 8-9).

Table 4.11-11 provides the required volumes of detention to meet both the County standard of three inches and five inches of runoff from the Project and the 100-year runoff. Note that the required storage to meet the County standard is the same for the existing and proposed conditions due to the fact that the County does not consider the runoff coefficient in its standard. The 100-year runoff is the estimated volume based on a "C" factor of 0.60 and a 100-year 24-hour precipitation of 3.79 inches (Fuscoe 2018a, p. 9).The Project would utilize connection to existing discharge locations to the IID Drain System, connection to relocated discharge locations to the IID Drain System, and/or percolation into the

TABLE 4.11-11
PROPOSED PROJECT STORM WATER RUNOFF

Drainage Area Name	Area (ac)	County Storage (AF)		100-Year Runoff (AF)
		3 inches	5 inches	
Receiving Drain: Mt. Signal Drain #1A				
A	72.1	18.0	30.0	13.7
TOTAL	72.1	18.0	30.0	13.7
Receiving Drain: Mt. Signal Drain #1B				
I	83.0	20.8	34.6	15.7
J	79.2	19.8	33.0	15.0
TOTAL	162.2	40.6	37.6	30.7
Receiving Drain: Mt. Signal Drain #1				
B	75.5	18.9	31.4	14.3
D	82.4	20.6	34.3	15.6
TOTAL	157.9	39.5	65.7	29.9
Receiving Drain: Brockman Drain #1				
G	85.9	21.5	35.8	16.3
TOTAL	85.9	21.5	35.8	16.3
Receiving Drain: Mt. Signal Drain				
C	83.8	21.0	34.9	15.9
E	89.5	22.4	37.3	17.0
F	84.9	21.2	35.4	16.1
H	79.7	19.9	33.2	15.1
TOTAL	337.9	84.5	140.8	64.1

Source: Fuscoe 2018a, p. 9.

underlying soil. County of Imperial requirements for storage are significantly higher than the anticipated runoff from the 100-year storm. The five-inch and three-inch requirements, which will be applied depending on the final drawdown time, are 120 percent and 32 percent, respectively, greater than the anticipated volume of runoff from the 100-year storm event (Fuscoe 2018a, p. 9).

Potential for Infiltration of Runoff

Soil groups A, C and D are present on the Project site. In areas where the dominate soils belong to group A, infiltration of storm water runoff may be feasible. While infiltration testing has not been done on the site at this time, group A generally consists of soils that have moderate to high percolation rates (0.15 inches/hour and above) and are therefore suitable for infiltration. Soil group A is generally presents in the southern portion of the Project site. At the time of final engineering, infiltration tests will be performed to confirm infiltration feasibility and calculate drawdown times at the proposed ponding locations. At this preliminary stage, ponding areas which are underlain by group A soils are proposed to drain primarily through infiltration into the ground, although storm drain connection to the receiving IID Drain may be necessary. Ponding areas which are underlain by ground C or D soils, or are calculated to have a drawdown time of greater than 72 hours through infiltration alone, may be provided with a storm drain connection to the IID Drain system. These storm drain connections will take the place of existing connections, will be located at or near existing connections, and will be constructed in accordance with IID standard drawing number 12F-6855. The Project proposes to match or reduce the number of existing connections to the IID Drain system and at the time of final engineering outflow hydrographs will be provided for the existing and proposed conditions. The detention basins and outlet structures will be designed such that 100-yr peak flow rates in the proposed condition will be less than existing conditions. In combination with infiltration through the underlying soils, the connections will be designed to provide the ponding areas with a drawdown time of 72 hours or less while limiting proposed conditions flow rates to be equal to or below existing levels. At the time of final design, for locations where runoff from the Project site will be discharged to the IID Drains, outflow hydrographs will be developed for both the existing and proposed conditions. Final detention basin design and outlet structure design will be performed to demonstrate, via modeling, that the existing condition peak flowrate of runoff from the 100-year storm event is not increased in the proposed condition. Should the underlying soils prove to not be conducive to infiltration and if the developer does not intend to pursue

discharge of Project runoff into the IID Drains, then drawdown of stored runoff may exceed 72 hours. In said condition, the Project will prepare a Mosquito Abatement Plan and process it for approval with the County of Imperial Department of Environmental Health (Fuscoe 2018a, p. 10).

Agricultural Runoff

Under the proposed condition, runoff from agricultural activities will cease from the start of construction of a CUP Area through the life of the Project. As such, the total volume of runoff (storm water plus agricultural runoff) discharged to the IID Drain system will decrease during the life of the Project because water applied on the Project site during Project construction, operations and decommissioning will be substantially less than that applied during agricultural operations (Fuscoe 2018a, p. 10).

Runoff from the Project site will be controlled by shallow ponding areas/detention basins to not exceed existing peak storm water flow rates as discussed previously. Due to the postponement of agricultural irrigation during the life of the Project, it is anticipated that the annual runoff from the proposed Project site will decrease when compared to the existing condition.

The Project may be constructed in individual phases (Phased CUP Scenario). Due to the presence of roads, canals, and drains surrounding and crossing through the Project site, each individual CUP Area is hydrologically isolated from the other CUP Areas associated with the Project. As such, should the phasing of the Project be necessary (Phased CUP Scenario), the hydrologic aspects of the Project be necessary (Phased CUP Scenario), the hydrologic aspects of the Project would be similar to constructing the Project all at once over an 18-month period (Full Build-out Scenario).

Therefore, a **less than significant impact** would occur with regard to exceedance of existing or planned stormwater drainage systems capacity or providing additional sources of polluted runoff under both the Full Build-out Scenario and the Phased CUP Scenario during Project construction, operation and decommissioning. No impact would occur once the Project site is reclaimed.

4.11.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting (geographic scope) for hydrologic resources is the Imperial Hydrologic Unit of the Salton Sea watershed as defined by the RWQCB's 2006 Basin Plan. The Salton Sea Watershed encompasses an area of approximately 8,360 square miles that extends from San Bernardino County in the north to the Valley of Mexicali (Republic of Mexico) in the south**.** The Salton Sea lies at the lowest point in the watershed (approximately 227 feet below mean sea level) and collects runoff and agricultural drainage from most of Imperial County, a considerable portion of Riverside County, small portions of San Bernardino and San Diego Counties, as well as the northern portion of the Valley of Mexicali. The Salton Sea, a 376 square mile closed inland lake was created in 1905 through a routing mistake and subsequent flood on the Colorado River. The Salton Sea has been fed primarily by agricultural runoff from the New and Alamo Rivers ever since. In the Project Area, runoff flows into existing irrigation ditches and culverts around the perimeter of the fields, which drain into the Imperial Valley Drains to the New River to the Salton Sea. The impaired waterbodies listed on the 303 (d) list include the Imperial Valley Drains, the New River and the Salton Sea. Groundwater in the Project Area is not used for municipal or domestic supply (Fuscoe 2018a), and therefore is not further discussed in this cumulative impact analysis.

Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used identifies cumulative projects in the vicinity of the proposed Project, the majority of which are other solar projects.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Water Quality and Runoff Impacts

Impact 4.11.6 With the implementation of legally required SWRCB, RWQCB, and County policies, plans and ordinances governing land use activities that may degrade or contribute to the violation of water quality standards, the proposed Project, in combination with approved, proposed and other reasonably foreseeable projects in the Salton Sea watershed would not contribute to the cumulative effects of degradation of water quality, or result in changes in water runoff patterns. This impact is considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation and Decommissioning/Reclamation

Water Quality

All projects in the watershed in excess of one-acre, including, but not limited to, the proposed Project and the projects listed in Table 3.0-1, are required to comply with the SWRCB NPDES general permit for activities associated with construction (Order 2009-0009-DWQ as modified by Order 2010-0014-DWQ, NPDES Permit No. CAS000002), which is known as the Construction General Permit (CGP). Without laws requiring projects to obtain and comply with the CGP, grease, oils, sediment and heavy metals generated during construction and post-construction activities could enter the surrounding impaired waterways from the Project site. The CGP requires development and implementation of rain event action plan, adherence to numeric effluent limits, monitoring and reporting, as well as implementation of numeric action plans. It also requires post-construction storm water runoff site planning to assure that the rate of water runoff does not exceed pre-Project conditions. The SWRCB has determined that the CGP protects water quality, is consistent with the CWA, and addresses the cumulative impacts of construction activities throughout the state, which includes the cumulative impacts from construction of projects within the watershed.

Additionally, the transition from agricultural land to industrial land as embodied by the proposed Project would result in a substantial reduction in pesticide, herbicide, and fertilizer application, and storm water discharge. The impacts to the water quality of the receiving earthen ditches, Imperial Valley Drains and ultimately the impaired New River and Salton Sea, would be beneficial because of the reduction in organic compounds found in pesticides, agricultural waste, loose sediments and excess nutrients from fertilizers. Removal of these substances will result in a significant saline reduction in the receiving waters. The IID is currently implementing a drain water quality improvement plan (Resolution No 93-145 as updated through May 19, 2016) to achieve water quality objectives to comply with Section 303(d) of the CWA (IID 2016). A component of the IID plan is to reduce maintenance operations, which will result in a reduction of Total Suspended Solids (TSS).

As discussed under the Project-specific issue areas above, each CUP Area will be required to prepare and comply with a SWPPP including construction BMPs, Site Design BMPs, Source Control BMPs, and Treatment Control BMPs for the management on runoff flow and water quality applicable to Project construction, operation and maintenance and decommissioning activities. The Project will also be required to comply with County regulations requiring the preparation and implementation of a Hazardous Materials Business Plan and an Integrated Pest Management Plan to address potential hazards associated with on-site chemical use. Inclusion of all of these features at each of the CUP Areas will ensure that the quality of the Project site's storm water runoff is improved. As a result, the proposed Project would have a **less than cumulatively considerable** impact to water quality under both the Full Build-out Scenario and the Phased CUP Scenario. Likewise, all other cumulative development projects would also be required to incorporate similar BMPs and comply with the same regulatory requirements as the proposed Project for the protection of water quality. Therefore, the proposed Project, in combination with other cumulative projects would have a **less than cumulatively considerable** impact to cumulative water quality during construction, operation and decommissioning/reclamation under both the Full Build-out Scenario and Phased CUP Scenario.

Hydrology/Runoff Patterns

As discussed under the Project-specific issue areas above, the Project will not have a substantial impact on the hydrology of the surrounding area or of the IID Drain system. Post-Project site conditions reflect increases in unattenuated peak runoff generated by the Project. However, the provision of detention

(either through designated detention basins outside arrays or shallow areas of ponding under arrays, or a combination of both) will attenuate peak discharges from the Project site. Detained runoff will be either infiltrated into the underlying soil or slowly released at or below predevelopment levels into the IID Drain system in a manner consistent with existing conditions. The *Conceptual Drainage Study and Storm Water Quality Analysis* prepared for the Project indicated the County's runoff detention standards can be met within the limits of the Project site. The analysis also determined that whether implemented at one time (Full Build-out Scenario) or in multiple phases (Phased CUP Scenario), the Project can be constructed without substantial change to existing drainage patterns. At the time of final design and engineering, a final hydrology study will be prepared and processed for approval with DPW utilizing standard industry practice that models factors such as runoff coefficient or curve number, infiltration into underlying soils, and flow in storm drain discharge pipes connected to the IID Drain system. Ultimate locations, volumes, and limits of detention basins will be determined at the time of final engineering (Fuscoe 2018a, p. 38). The quantity of any flow released into the IID drain system will also be lower than under the existing agricultural uses, as the Project will require much less water for construction, operation and maintenance, and decommissioning activities. Finally, the Applicant / CUP Owners are required to return the Project site to pre-Project conditions upon expiration of each CUP. As a result, the proposed Project would have a **less than cumulatively considerable** impact to the hydrology and runoff patterns of the watershed under both the Full Build-out Scenario and Phased CUP Scenario.

The cumulative projects identified in Table 3.0-1 are other solar energy facilities, most of which have similar existing and proposed topography, on-site and surrounding IID drainage systems, relatively small increases in impervious surfaces (temporarily until decommissioning), and minimal water use requirements. These cumulative projects would also be required to comply with the same regulatory requirements as the proposed Project in regard to preparation and implementation of hydrologic studies, provision of on-site runoff detention capacity, and approvals for any releases into the IID Drain system. Further, the owners of each project are required to return their respective Project sites to pre-project conditions at the end of each of their operational lifespans. Therefore, the proposed Project, in combination with other cumulative projects, would have a **less than cumulatively considerable** impact to the hydrology and runoff patterns of the watershed during construction, operation and decommissioning/reclamation under both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

SECTION 4.12
BIOLOGICAL RESOURCES

This section provides a background discussion of the regulatory framework, the affected environment and impacts to biological resources. The regulatory framework discussion focuses on the federal, state, and local regulations that apply to plants, animals and sensitive habitats. The affected environment discussion focuses on the topography and soils; general vegetation; general wildlife; sensitive biological resources; riparian habitat and sensitive natural communities; jurisdictional waters; and habitat connectivity and wildlife corridors. Information contained in this section is summarized from the *Biological Resources Report for the Drew Solar Project* ("Biological Resources Report") dated July 2018 (Dudek 2018c). This report along with associated appendices is provided on the attached CD of Technical Appendices as **Appendix K** of this EIR.

The survey consisted of the Project Area excluding paved roads and other developed areas and a 200-foot buffer (**Figure 4.12-1**) totaling 855 acres. For the purposes of this section, the Full Build-out Scenario with disturbance of the Solar Energy Generation Component, Energy Storage Component, and Drew Switchyard and Gen-Tie Lines represents the worst-case scenario.

4.12.1 REGULATORY FRAMEWORK

FEDERAL

Clean Water Act

The Clean Water Act (CWA [33 U.S.C. 1251 et seq]) is intended to restore and maintain the quality and biological integrity of the Nation's waters. It prohibits the discharge of pollutants into Waters of the United States (WUS) without a National Pollutant Discharge Elimination System (NPDES) permit from the Environmental Protection Agency (EPA). By issuing NPDES permits, the EPA can regulate the discharge of pollutants to protect water quality.

Section 404 of the CWA provides that whenever any person discharges dredged or fill material into WUS (e.g., streams, wetlands, lakes, bays), a permit is required from the United States Army Corps of Engineers (USACE). The USACE has issued 52 separate Nationwide Permits (NWPs) for different types of projects with impacts to wetlands (as of September 2012). Depending on the level of impact, projects qualifying for an NWP may be required to provide the USACE with Pre-Construction Notification of the impacts and meet other restrictions. Projects with greater wetland impacts than those allowed under one of the NWPs require an Individual Permit. The process of obtaining an Individual Permit includes public notice and response to all comments received; the permit decision document includes a discussion of the environmental impacts of the project, the public and private needs, alternatives to achieve project purposes if needed, and beneficial and/or detrimental effects of the project on public and private uses. In *SWANCC vs. USACE*, the Supreme Court ruled that the jurisdiction of the USACE does not extend to isolated, intrastate, non-navigable waters and wetlands such as vernal pools, ephemeral streams, and wetlands not associated with a stream channel.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification. The certification must declare that the discharge would comply with water quality standards requirements of the CWA. USACE issuance of a Section 404 permit triggers the requirement that a Section 401 certification also be obtained. In California, the Regional Water Quality Control Boards (RWQCBs) issue this certification.

Executive Order 13112 – Invasive Species

Executive Order (EO) 13112 was signed in February 1999 and established the National Invasive Species Council. To the extent practicable and permitted by law, this EO requires agencies to: prevent the introduction of invasive species; provide for control of invasive species; and minimize the economic, ecological, and human health impacts that invasive species cause.

Source: Recon 2018c.

FIGURE 4.12-2
PROJECT SURVEY AREA

Executive Order 11990 – Protection of Wetlands

EO 11990 establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative.

Federal Endangered Species Act

The Federal Endangered Species Act (ESA) designates threatened and endangered animals and plants and provides measures for their protection and recovery. "Take" of listed animal species and of listed plant species is prohibited without obtaining a federal permit. Take is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage the habitat of (i.e., harm) listed wildlife species require approval from the United States Fish and Wildlife Service (USFWS) for terrestrial species. ESA Section 7 and Section 10 provide two pathways for obtaining authority to take listed species. The ESA also generally requires determination of critical habitat for listed species. If critical habitat has been designated, impacts to areas that contain the primary constituent elements identified for the species, whether or not the species is currently present, is also prohibited.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations that protect migratory birds, (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted. Generally, the list of species protected under the MBTA includes those where evidence of natural occurrence in the United States or its territories exists, and the documentation of such records has been recognized by the American Ornithologists Union or other competent scientific authorities. Species not protected under the MBTA include those whose occurrences in the United States are strictly the result of intentional human introduction.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike the federal ESA, state listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to the federal ESA and is prohibited for both listed and candidate species. Take authorization may be obtained from California Department of Fish and Wildlife (CDFW) under California ESA Sections 2091 and 2081. Section 2091, like federal ESA Section 7, provides for consultation between a state lead agency under CEQA and CDFW, with issuance of take authorization if the project does not jeopardize the listed species. Section 2081 allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFW to develop a set of measures and standards for managing the listed species including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. In addition to federal or state listed species, "sensitive" plants and animals receive consideration under CEQA. Sensitive species include, but are not

limited to, wildlife Species of Special Concern listed by CDFW and plant species on the CNPS's List 1A (Presumed extinct); List 1B (Rare, threatened, or endangered in California and elsewhere / eligible for state listing); or List 2 (Rare, threatened, or endangered in California but more common elsewhere eligible for state listing.).

California Fish and Game Code

California Native Sections 3511, 4700, 5050, and 5515 of California Fish and Game Code (CFGC) outline protection for "fully protected" (i.e. Fully Protected species refer to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status species of mammals, birds, reptiles, amphibians, and fish. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFW. Species that are fully protected by these sections may not be taken or possessed at any time. CDFW cannot issue permits or licenses that authorize the "take" of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, it is the responsibility of the CDFW to maintain viable populations of all native species. To that end, the CDFW has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 directed the CDFW to carry out the Legislature's intent to "preserve, protect, and enhance rare and endangered plants in this State." The NPPA gave the California Fish and Game Commission the power to designate native plants as "endangered" or "rare" and protect endangered and rare plants from take. The California ESA of 1984 expanded on the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the Fish and Game Code. To align with federal regulations, the California ESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the ESA as threatened species but did not do so for rare plants. Thus, there are 3 listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in the California ESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and the Applicant.

Lake and Streambed Alteration Program

Prior to commencement of any activity that would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, the Applicant shall submit a complete Lake or Streambed Alteration Program notification package and fee to the CDFW. The Lake and Streambed Alteration Program is a California law that requires that any person, state, local government agency, or public utility notify the CDFW prior to beginning of the activities listed above. The CDFW has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the Applicant becomes the Lake or Streambed Alteration Agreement (SAA). The conditions of agreement and a CWA Section 404 permit often overlap.

Porter-Cologne Act

The intent of the Porter-Cologne Act is to protect water quality and the beneficial uses of water and applies to both surface and groundwater. Under this law, the California State Water Resources Control Board (SWRCB) develops statewide water quality plans, and the RWQCBs develop basin plans that

identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne include isolated waters that are no longer regulated by the USACE. Developments which impact jurisdictional waters must demonstrate compliance with the goals of the Act by developing Storm Water Pollution Prevention Plans (SWPPPs), Standard Urban Storm Water Mitigation Plans, and other measures in order to obtain a CWA Section 401 Water Quality certification.

LOCAL

Imperial County General Plan

The Imperial County General Plan contains a variety of goals, objectives, policies and programs that relate to the preservation and conservation of biological resources. **Table 4.12-1** analyzes the consistency of the proposed Project with the applicable goals, objectives, policies and programs relating to biological resources from the Conservation and Open Space Element (Imperial County 2016). In addition, an agriculture policy and program from the Land Use Element that directly applies to the Project with regard to burrowing owl is also included. While this EIR analyzes the Project's consistency with the General Plan pursuant to State CEQA Guidelines Section 15125(d), the Imperial County Board of Supervisors ultimately determines consistency with the General Plan.

TABLE 4.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives Policies and Policies	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Conservation of Environmental Resources for Future Generations		
Goal 1: Environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions and educating the public on their value.	Yes	The proposed Project is located on previously disturbed agricultural land thereby minimizing impacts to other land undisturbed lands. Therefore, the proposed Project is consistent with this goal under both the Full Build-out Scenario and the Phased CUP Scenario
Objective 1.1: Encourage uses and activities that are compatible with the fragile desert environment and foster conservation.	Yes	By siting the Project on previously disturbed agricultural lands, the Project avoids the fragile desert environmental. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and the Phased CUP Scenario.
Conservation of Biological Resources		
Objective 2.4: Use the CEQA and NEPA process to identify, conserve and restore sensitive vegetation and wildlife resources.	Yes	The solar field site parcels are proposed for use as a solar energy generating facility on lands historically and currently used for agriculture. As discussed in this section, habitats, and plant and animal species could be impacted by construction, operation, and decommissioning of the

TABLE 4.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives Policies and Policies	Consistent with General Plan?	Analysis
		Project. This EIR, as part of the CEQA review process, includes mitigation measures to address impacts to sensitive vegetation and wildlife resources. Mitigation measures (MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d and MM 4.12.1e) are identified to address impacts to sensitive habitats, plant and animal species. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 2.6: Attempt to identify, reduce, and eliminate all forms of pollution; including air, noise, soil, and water.	Yes	The proposed Project, as a renewable energy project, would reduce pollution by providing a clean source of electricity generation. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and the Phased CUP Scenario.
Open Space Conservation Policy: The County shall participate in conducting detailed investigations into the significance, location, extent, and condition of natural resources in the County.	Yes	The Applicant prepared the *Biological Resources Report for the Drew Solar Project* (Dudek 2018c) to identify biological resources that are present and could be affected by the Project. This report identifies the existing conditions for each CUP (as appropriate) and the Full Build-out Scenario, potential impacts resulting from Project implementation, and appropriate mitigation measures (MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d and MM 4.12.1e) necessary to avoid significant impacts to natural resources in the County. Therefore, the proposed Project is consistent with this policy under both the Full Build-out Scenario and the Phased CUP Scenario.
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.	Yes	The Biological Resources Report (Dudek 2018c) and wetland permit applications will be submitted to CDFW and USACE for processing if determined necessary for impacting waters upon completing the final engineering design. The Biological

TABLE 4.12-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS

General Plan Goals, Objectives Policies and Policies	Consistent with General Plan?	Analysis
		Resources Report will not be submitted to USFWS as no permits or approvals are required from USFWS for the proposed project. However, CDFW and USFWS will also be consulted and provided an opportunity to comment on this EIR prior to the County's consideration of any Project approvals. Therefore, the proposed Project is consistent with this program under both the Full Build-out Scenario and the Phased CUP Scenario.
LAND USE ELEMENT		
Agriculture Policies and Programs		
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 classified as important burrowing owl habitat, typically in the berms and banks of agricultural fields.	Yes	Based on the Agriculture designation of all CUPs, the potential for burrowing owl (BUOW) was examined as part of the *Biological Resources Report for the Drew Solar Project* (Dudek 2018c) prepared for the Project. Refer Impact 4.12.1 and mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d and MM 4.12.1e.
Program: Prior to approval of development of existing agricultural land either in form of one parcel or a numerous adjoining parcels equally a size of 10 acres or more shall prepare a Biological survey and mitigate the potential impacts. The survey must be prepared in accordance with the United States Fish and Wildlife and California Department of Fish and Wildlife regulations, or as amended.	Yes	The *Biological Resources Report for the Drew Solar Project* (Dudek 2018c) included focused burrowing owl surveys conducted in April, June and September, 2017 pursuant to the survey guidelines outlined in Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012. Mitigation measures mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d and MM 4.12.1e address potential impacts to burrowing owl in accordance with CDFW requirements. Therefore, the proposed Project is consistent with this program under both the Full Build-out Scenario and the Phased CUP Scenario.

4.12.2 ENVIRONMENTAL SETTING

A. PROJECT SITE AND ENERGY STORAGE COMPONENT

The proposed Drew Solar Project (Project) involves the development of a solar photovoltaic (PV) energy-generating facility including energy storage and two gen-tie transmission facilities. The proposed Project Area encompasses a total of approximately 855 gross acres in Imperial County, California located approximately 2.5 miles north of the Mexico border, immediately north of Interstate 98 (I-98). The geographic center of the Project roughly corresponds with 32° 41' 13" North and 115° 40' 8" West, at an elevation of 19 feet below sea level.

The Project includes all six CUP areas within which all components of the Project would be located including but not limited to solar field arrays, energy storage facilities, Gen-Tie facilities, O&M buildings, substations, collection systems, inverters, improvements to the existing Drew Switchyard, driveways, County and Caltrans road improvements, connections to canals, drains and dry utility distribution facilities, raw/fire water storage, potable water storage and filtration systems, and access roads plus additional areas outside of the Project footprint (see **Figure 4.12-1**) surveyed during 2017.

Vegetation Communities and Land Cover

A total of four vegetation communities and five land cover types were identified within the Project Area: American bulrush marsh, arrow weed thickets, cattail marshes, tamarisk thickets, open water, unvegetated channel, disturbed habitat, urban developed, and agricultural lands. The vegetation communities and land cover types are described in detail below. Their acreages are presented in **Table 4.12-4**, and their spatial distributions are presented in the Biological Resources Map (**Figure 4.12-2**).

TABLE 4.12-2
VEGETATION COMMUNITIES AND LAND COVERS*

Vegetation Community	Gross Acres
American Bulrush Marsh Alliance	0.08
Arrow Weed Thickets Alliance	4.88
Cattail Marshes Alliance	3.36
Tamarisk Thickets Semi-natural Alliance	1.28
Land Cover	**Gross**
Open Water	2.98
Unvegetated Channel	2.96
Agriculture	760.25
Disturbed Habitat	64.25
Urban Developed	4.16
Total*	844.20

Source: Dudek 2018c.
*Note: Applicant is proposing a Parcel Map application through Imperial County Planning & Development Services to correct a legal and physical boundary discrepancy. After the Parcel Map record, the Project acreage will be 855 gross acres, but the net acreage will remain unchanged at 762.8 net acres.
** Total acreages may not sum due to rounding.

American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant in the herbaceous layer. For a stand of vegetation to be classified as American bulrush marsh, American bulrush must be greater than 50% relative cover in

the herbaceous layer. Cover is intermittent to continuous and primarily occurs along streams, around ponds, lakes, in sloughs, swamps, fresh and brackish marshes, and roadside ditches. Soils have a high organic content and are poorly aerated.

Status: The American bulrush marsh is ranked as a G5S3.2 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

Arrow Weed Thickets Alliance

The arrow weed thickets alliance (Pluchea sericea alliance) includes arrow weed as the dominant or codominant shrub in the canopy. Arrow weed thickets have an intermittent to continuous shrub canopy less than 16 feet in height and a sparse ground layer with seasonal annuals. For a stand of vegetation to be classified as arrow weed thickets, arrow weed must be greater than or equal to 2% absolute cover1 in the shrub canopy. This alliance occurs in wetlands that are seasonally flooded and saturated with fresh water located around seeps, canyon bottoms, irrigation ditches, stream sides, and washes.

Status: The arrow weed thickets alliance is ranked as a G3S3 alliance; therefore, it is considered a sensitive biological resource under CEQA (CDFG 2010).

Cattail Marshes Alliance

The cattail marshes alliance (*Typha* [*angustifolia, domingensis, latifolia*] alliance) includes cattails as the dominant or co-dominant herb in the herbaceous layer. Cattail marshes alliance has a continuous to intermittent canopy less than 4.9 feet in height. For a stand of vegetation to be classified as cattail marshes, cattails (*Typha* ssp.) must be greater than 50% relative cover[2] in the herbaceous layer. The cattail marshes alliance occurs throughout California at elevations ranging from sea level to 1,148 feet amsl. The cattail marshes alliance occurs on clay or silty soils in semi-permanently flooded freshwater or brackish marshes.

Status: The cattail marshes alliance has a rank of G5S5; therefore, it is not considered a sensitive biological resource under CEQA (CDFG 2010). However, it is a wetland community, which is typically afforded protection under CEQA and the Clean Water Act.

Tamarisk Thickets Semi-Natural Alliance

The tamarisk thickets or *Tamarix* spp. semi-natural alliance includes the non-native invasive tamarisk as the dominant shrub in the canopy. Tamarisk thickets have a continuous to open shrub canopy less than 26 feet in height with possible emergent trees and a sparse ground layer (Sawyer et al. 2009 in Dudek 2018c). For a stand of vegetation to be classified as tamarisk thickets, tamarisk must be greater than 3% absolute cover and 60% relative cover in the shrub canopy. This semi- natural stand occurs in and along ditches, rivers, washes, lake margins, and watercourses.

Status: The tamarisk thickets semi-natural alliance is not considered a sensitive biological resource under CEQA (CDFG 2010).

[1] Absolute cover refers to the actual percentage of the ground that is covered by a species. For example, arrow weed covers between 5% and 15% percent of the stand. Absolute cover of all species if added in a stand or plot may total greater or less than 100% because it is not a proportional number (CNPS and CDFG 2007).

[2] Relative cover refers to the amount of the stand sampled that is covered by one species as compared to (relative to) the amount of the stand covered by all species (in that group). Thus, 50% relative cover means that half of the total cover of all species is composed of the single species. Relative cover values are proportional numbers and, if added, total 100% for each stand (CNPS and CDFG 2007).

Open Water

The open water mapping unit is not recognized by the Natural Communities List (CDFG 2010)). Open water consists of standing water and contain less than 10% vegetation.

Status: Open water does not support any vegetation; therefore, open water is not considered a sensitive biological resource under CEQA (CDFG 2010).

Unvegetated Channel

Unvegetated channel is not described in Sawyer et al. (2009); however, Oberbauer et al. (2008) describes this land cover type as, the sandy, gravelly, or rocky fringe of waterways or flood channels that are unvegetated on a relatively permanent basis. Variable water lines inhibit the growth of vegetation, although some weedy species of grasses may grow along the outer edges of the wash. Vegetation may exist here but is usually less than 10% total cover. Unvegetated channel land cover found in the Project site is primarily composed of a mix of concrete lined irrigation canals or earthen irrigation canals that have little to no vegetation.

Status: Unvegetated channel land cover does not support any vegetation; therefore, unvegetated channels are not considered a sensitive biological resource under CEQA (CDFG 2010).

Agriculture (AGR)

Agricultural land includes the following agricultural types: agriculture (general), nurseries, orchard agriculture, pastures and crop agriculture, tilled earth, and vineyard–shrub agriculture. Agricultural land is the dominant land cover type in the Project site.

Status: General agriculture is not considered a sensitive biological resource under CEQA (CDFG 2010).

Disturbed Habitat (DH)

Disturbed habitat refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation.

Status: Disturbed habitat typically does not support any vegetation; therefore, disturbed habitats are not considered a sensitive biological resource under CEQA (CDFG 2010).

Urban/Developed

Urban/developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Urban/developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation.

Status: Urban/developed land typically does not support any vegetation or is a landscaped area; therefore, urban/developed lands are not considered a sensitive biological resource under CEQA (CDFG 2010).

Jurisdictional Delineation and Determinations

Dudek performed a formal jurisdictional delineation within the Project Area on December 5, 2017, with methods described in detail in Section 2.2.2. One set of data stations was collected in the Project Area (Appendix A of the Biological Resources Report included in **Appendix K** of this EIR. The results of the delineations are shown on the **Figure 4.12-2**.

Federal Jurisdiction

The Project Area is located within an agricultural area with several irrigation ditches or canals. Based on aerial review, the irrigation ditches/canals receive water from the All American Canal. All of the

water from the drainages/canals eventually outlet into Greeson Wash, which flows into the New River, which terminates at the Salton Sea, a traditional navigable water. The irrigation ditches/canals were created in uplands, however, could be considered jurisdictional waters regulated by the USACE. A preliminary jurisdictional delineation (PJD) report will be submitted to the USACE for review in the event project improvements require impacts to potential USACE waters.

On site, there are both earthen-lined and concrete-lined irrigation ditches/canals; water and vegetation was present in some of the canals and the smaller ditches were dry and void of vegetation. Wetland hydrology indicators were present (i.e., hydrophytic vegetation, hydric soils, or surface water) within some of the canal bottoms or fringes. The Project Area contains approximately 10.2 acres of resources under the jurisdiction of the USACE and RWQCB, including 6 acres of non-wetland waters and 4.2 acres of wetlands.

State Jurisdiction

Water resources are also subject to state laws administered by CDFW. Resources subject to the jurisdiction of the CDFW pursuant to Section 1602 of the California Fish and Game Code include ephemeral, intermittent, and perennial stream channels. CDFW asserts jurisdiction over riparian habitat associated with a streambed.

Based on the jurisdictional delineation, there are approximately 15.5 acres of resources under the jurisdiction of CDFW, including 6 areas of streambed and 9.6 acres of wetlands. Riparian habitat located on the canal slopes that did not meet the three parameters for a federal wetland are mapped as CDFW-only riparian habitat. Jurisdictional resources are summarized in **Table 4.12-3** and shown on the **Figure 4.12-2**.

TABLE 4.12-3
JURISDICTIONAL WETLANDS AND NON-WETLAND WATERS IN THE PROPOSED PROJECT AREA (ACRES)

Vegetation Community	USACE/RWQCB/CDFW	CDFW-Only
Wetland Waters/Riparian Habitat		
American Bulrush	0.08	--
Arrow Weed Thickets	--	4.88
Cattail Marshes	3.36	--
Tamarisk Thickets	0.78	0.50
Wetland Waters Subtotal	4.22	5.38
Non-Wetland Waters/Streambed		
Open Water	2.98	--
Unvegetated Channel	2.96	--
Non-Wetland Waters Subtotal	5.95	--
Grand Total	10.17	5.38

Source: Dudek 2018c.

Source: Recon 2018c.

FIGURE 4.12-2
BIOLOGICAL AND JURISDICTIONAL RESOURCES

Plant Resources

A total of ten species of native or naturalized vascular plants, five native (50%) and five non-native (50%), were recorded within the proposed Project site (see Appendix B of the Biological Resources Report included in **Appendix K** of this EIR). Special-status plant species that have a potential to occur and other plant species that occur in the region, however are not expected to occur within the boundaries of the proposed Project site, are shown below in **Table 4.12-4**.

TABLE 4.12-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN THE PROPOSED PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia villosa var. aurita	chaparral sand-verbena	None/None/ 1B.1	Chaparral, Coastal scrub, Desert dunes; sandy/annual herb/(Jan)Mar–Sep/245– 5250	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Amaranthus watsonii	Watson's amaranth	None/None/ 4.3	Mojavean desert scrub, Sonoran desert scrub/annual herb/Apr–Sep/65–5575	Not expected to occur. No suitable habitat present.
Astragalus crotalariae	Salton milk-vetch	None/None/ 4.3	Sonoran desert scrub (sandy or gravelly)/perennial herb/Jan–Apr/-195– 820	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Astragalus sabulonum	gravel milk-vetch	None/None/ 2B.2	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; Usually sandy, sometimes gravelly. Flats, washes, and roadsides/annual / perennial herb/Feb– June/-195–3050	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

TABLE 4.12-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN THE PROPOSED PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Calliandra eriophylla	pink fairy-duster	None/None/ 2B.3	Sonoran desert scrub (sandy or rocky)/perennial deciduous shrub/Jan– Mar/390–4920	Not expected to occur. Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Castela emoryi	Emory's crucifixion-thorn	None/None/ 2B.2	Mojavean desert scrub, Playas, Sonoran desert scrub; gravelly/perennial deciduous shrub/(Apr)June–July (Sep–Oct)/295–2380	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Croton wigginsii	Wiggins' croton	None/SR/2B. 2	Desert dunes, Sonoran desert scrub (sandy)/perennial shrub/Mar–May/160– 330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Cylindropuntia wolfii	Wolf's cholla	None/None/ 4.3	Sonoran desert scrub/perennial stem succulent/Mar–May/325–3935	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Eucnide rupestris	annual rock-nettle	None/None/ 2B.2	Sonoran desert scrub/annual herb/Dec– Apr/1640–1970	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

TABLE 4.12-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN THE PROPOSED PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Euphorbia abramsiana	Abrams' spurge	None/None/ 2B.2	Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/(Aug)Sep–	Not expected to occur. No suitable habitat present.
Funastrum utahense	Utah vine milkweed	None/None/ 4.2	Mojavean desert scrub, Sonoran desert scrub; sandy or gravelly/perennial herb/(Mar)Apr–June (Sep–Oct)/325– 4710	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Imperata brevifolia	California satintail	None/None/ 2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps (often alkali), Riparian scrub; mesic/perennial rhizomatous herb/Sep– May/0–3985	Low potential to occur. Suitable habitat is sparse and isolated.
Ipomopsis effusa	Baja California ipomopsis	None/None/ 2B.1	Chaparral, Sonoran desert scrub (alluvial fan); sandy/annual herb/Apr–	Not expected to occur. No suitable habitat present.
Johnstonella costata	ribbed cryptantha	None/None/ 4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub; sandy/annual herb/Feb–May/-195–1640	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Johnstonella holoptera	winged cryptantha	None/None/ 4.3	Mojavean desert scrub, Sonoran desert scrub/annual herb/Mar–Apr/325–5545	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.

TABLE 4.12-4
SPECIAL-STATUS PLANTS WITH POTENTIAL TO OCCUR IN THE PROPOSED PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lycium parishii	Parish's desert-thorn	None/None/ 2B.3	Coastal scrub, Sonoran desert scrub/perennial shrub/ Mar–Apr/440– 3280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
Malperia tenuis	brown turbans	None/None/ 2B.3	Sonoran desert scrub (sandy, gravelly)/annual herb/(Feb) Mar–Apr/45– 1100	Not expected to occur. No suitable habitat present.
Mentzelia hirsutissima	hairy stickleaf	None/None/ 2B.3	Sonoran desert scrub (rocky)/annual herb/ Mar–May/0–2295	Not expected to occur. No suitable habitat present.
Nama stenocarpa	mud nama	None/None/ 2B.2	Marshes and swamps (lake margins, riverbanks)/annual / perennial herb/Jan–July/15–1640	Low potential to occur. Suitable habitat is sparse and isolated.
Pilostyles thurberi	Thurber's pilostyles	None/None/ 4.3	Sonoran desert scrub/perennial herb (parasitic)/Dec–Apr/0–1200	Not expected to occur. No suitable habitat present.

Source: Dudek 2018c.
Status Legend: State: SR: State Rare **CRPR**: California Rare Plant Rank CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere CRPR 4: Plants of Limited Distribution - A Watch List

No special-status plant species were observed during the 2017 biological survey. There is low potential for special-status plant species to occur on site. In general, due to the sparse nature of suitable habitat, the generally disturbed nature of the site, and proximity of surrounding active agriculture, it is unlikely that any special-species plant species would be present. Therefore, impacts to special-status plants are not discussed further in this analysis.

WildlifeResources

A total of 21 wildlife species were recorded within the proposed Project Area (see Appendix C). Bird species observed include common raven (*Corvus corax*), black phoebe (*Sayornis nigricans*), American kestrel (*Falco sparverius*), western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), greater yellowlegs (*Tringa melanoleuca*), cattle egret (*Bubulcus ibis*), great egret (*Ardea alba*), turkey vulture (*Cathartes aura*), and burrowing owl (*Athene cunicularia*; CDFW SSC). Two mammal species or their sign were observed including coyote (*Canis latrans*) and raccoon (*Procyon lotor*).

Results of focused burrowing owl surveys are discussed below. No additional special-status wildlife species were detected incidentally during the 2017 biological surveys. Special- status wildlife species that have the potential to occur in the proposed Project site are listed in **Table 4.12-5** and discussed in

terms of their life history. Those that occur in the region but that are not expected to occur in the proposed Project site, due for example, to a lack of suitable habitat, are also included in **Table 4.12-5**. The wildlife species that have a low to no likelihood of occurring are not discussed further in this report because no significant direct, indirect, or cumulative impacts are expected to result from the proposed Project. Because focused surveys were not conducted for wildlife species other than burrowing owl, the potential for the species to occur is based on a literature review and the data collected during the general biological survey for the proposed Project.

TABLE 4.12-5
SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREA

Scientific Name	Common Name	Status (Federal/State /Other)	Primary Habitat Associations	Potential to Occur
Amphibians				
Lithobates pipiens (native populations	northern leopard frog	None/SSC	Adjacent to permanent and semi-permanent water in a range of habitats	Low potential to occur. Last known observation in Project vicinity in 1929.
Lithobates yavapaiensis	lowland (=Yavapai, San Sebastian & San Felipe)	None/SSC	Streams, river side channels, springs, and artificial and natural ponds in desert scrub, grassland, woodland, and pinyon–	Low potential to occur. Habitat is sparse and isolated by surrounding agricultural practices.
Reptiles				
Phrynosoma mcallii	flat-tailed horned lizard	None/SSC	Desert washes and flats with sparse low-diversity vegetation cover and sandy soils.	Not expected to occur. No suitable habitat present.
Birds				
Athene cunicularia (burrow sites & some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Observed. This species and active burrow sites were observed on-site during surveys conducted between April 12, 2017 and September 28, 2017. None were observed during the general site visit on April 12, 2018, which focused on the western portions of the site.

TABLE 4.12-5
SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREA

Scientific Name	Common Name	Status (Federal/State /Other)	Primary Habitat Associations	Potential to Occur
Charadrius montanus (wintering)	mountain plover	BCC/SSC	Winters in shortgrass prairies, plowed fields, open sagebrush, and sandy deserts	Not expected to winter on site. No suitable wintering or nesting habitat present. There is low potential for this species could forage on site during migration.
Laterallus jamaicensis coturniculus	California black rail	None/ST, FP	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Moderate potential to occur. Suitable habitat present within the canals onsite; however, they are narrow and poorly vegetated – therefore, do not provide as high quality habitat compared to larger canals in the area.
Pyrocephalus rubinus (nesting)	vermilion flycatcher	None/SSC	Nests in riparian woodlands, riparian scrub, and freshwater marshes; typical desert riparian with cottonwood, willow, mesquite adjacent to irrigated fields, ditches, or pastures	Low potential to nest on site. Site has been heavily disturbed by agricultural practices. Potential nesting habitat exists within some irrigation canals, however it is sparse and non-contiguous. May forage on site.
Rallus obsoletus yumanensis	Yuma Ridgway's rail	FE/ST, FP	Freshwater marsh dominated by *Typha* spp., *Scirpus* spp., *Schoenoplectus* spp., *and Bolboschoenus* spp.; mix of riparian tree and shrub species along the marsh edge; many occupied areas are now man-made, such as managed ponds or effluent-supported marshes	Moderate potential to occur. Suitable habitat present within the canals onsite; however, they are narrow and poorly vegetated -therefore, do not provide as high quality habitat compared to larger canals in the area.

TABLE 4.12-5
SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREA

Scientific Name	Common Name	Status (Federal/State /Other)	Primary Habitat Associations	Potential to Occur
Setophaga petechia (nesting)	yellow warbler	BCC/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats.	Low potential to nest. No suitable habitat present in Project site.
Mammals				
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels.	Low potential to occur. No suitable roosting habitat present. May use the site to forage.
Lasiurus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms.	Low potential to occur. No suitable roosting habitat present. May use the site to forage.
Neotoma albigula venusta	Colorado Valley woodrat	None/None	Desert areas; closely associated with patches of beavertail cactus and mesquite	Low potential to occur. Site has been heavily disturbed by agricultural practices. Potential habitat exist within some irrigation canals, however it is sparse and non-contiguous.
Nyctinomops femorosaccus	pocketed free- tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings.	Low potential to occur. No suitable roosting habitat present. May use the site to forage.

TABLE 4.12-5
SPECIAL-STATUS WILDLIFE SPECIES POTENTIAL TO OCCUR IN THE PROPOSED PROJECT AREA

Scientific Name	Common Name	Status (Federal/State /Other)	Primary Habitat Associations	Potential to Occur
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops;	Low potential to occur. No suitable roosting habitat. May use the site to forage.
Sigmodon hispidus eremicus	Yuma hispid cotton rat	None/SSC	Backwater sloughs, marshy areas adjacent to Colorado River	Low potential to occur. Site has been heavily disturbed by agricultural practices. Potential habitat exist within some irrigation canals, however it is sparse and non-contiguous.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. No suitable habitat. Site has been heavily disturbed by agricultural practices.

Source: Dudek 2018c.
Federal: FE**:** Federally Endangered BCC = USFWS bird of conservation concern
State: SSC: California Species of Special Concern ST: State Threatened FP: California Fully Protected Species

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a Species of Special Concern (SSC) and Bird of Conservation Concern (BCC) that inhabits much of California. Burrowing owls prefer open, dry, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. They usually nest in the old burrow of a ground squirrel, badger, or other small mammal, although they may dig their own burrow in soft soil. Within disturbed or developed areas, burrowing owls may also nest in burrow surrogates (e.g., rock cavities, pipes, culverts, debris piles). Their prey consists mostly of insects, small mammals, reptiles, birds, and carrion.

Due to the high potential for burrowing owl to occur (i.e., flat topography, open vegetation, suitable burrow structures) within the Project Area, Dudek conducted focused surveys for burrowing owl between April 12, 2017 and September 28, 2017. The Project Area is dominated by heavily disturbed, fallow fields developed for cropland and agricultural fields. Thus, the survey was conducted such that 100% coverage of the entire Project Area was covered.

Biologists observed burrows during all four survey passes and burrowing owls during the first three survey passes. A total of 17 active burrow locations were recorded (**Figure 4.12-2**). Single and complexes of burrows of appropriate size detected on site that supported burrowing owls included ground burrows, gaps in concrete culverts, pipes, and burrows from water erosion cavities. Burrowing owl sign was observed and recorded at burrow entrances in order to assess burrowing owl activity. A total of 5 burrowing owls were observed within the Project Area, including one pair (**Figure 4.12-2**).

California Black Rail

The California black rail (*Laterallus jamaicensis coturniculus*) is designated as State threatened and a fully-protected species in California and primarily occurs in California, Arizona, Baja California, and the Colorado River delta in Sonora. Suitable California black rail habitat generally includes salt marshes, freshwater marshes, and wet meadows. The species is typically identified in conjunction with common threesquare (*Schoenoplectus pungens*), arrowweed (*Pluchea sericea*), Fremont cottonwood (*Populus fremontii*), and seepwillow (*Baccharis salicifolia*). The California black rail typically prey on small (<1 centimeter [0.39 inch]) invertebrates, chiefly insects, gleaned from marsh vegetation and mudflats; they also eat small seeds. No California black rail were detected in the proposed Project site during the 2017 general biological survey. There are no CNDDB occurrences found within the Project Area and no focused surveys were performed. The closest records are located approximately 8.5 miles north of the Project Area near the New River and are dated 2001. Suitable habitat is present within irrigation ditches located in the Project Area (**Figure 4.12-2**).

Yuma Ridgeway's Rail

The Yuma Ridgeway's rail (*Rallus obsoletus yumanensis*) is designated as threatened and a fully-protected species in California and is federally listed as endangered. The Yuma Ridgeway's rail is primarily known to breed in freshwater, but winter in brackish water. The preferred habitat consists of cattails (Typha spp.) and bulrush (*Scirpus ssp*.). The Yuma Ridgeway's rail primarily feeds on introduced species of crayfish, small fish, insects, amphibian larvae, clams, and other aquatic invertebrates. No Yuma Ridgeway's rail were detected in the proposed Project site during the 2017 general biological survey. There are no CNDDB or USFWS occurrences found within the Project Area and no focused surveys were performed. The closest records are from 2007 and 2014, located in a marsh approximately 5 miles north of the Project Area. Suitable habitat is present within irrigation ditches located in the Project Area (**Figure 4.12-2**).

Critical Habitat

There is no USFWS-designated critical habitat for within 5 miles of the Project area.

WildlifeMovement

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

Because the proposed Project site is primarily surrounded by and includes extensive historical and present day agricultural practices along with operating solar facilities (see **Figure 4.12-2**), the site has limited value as a potential wildlife corridor or habitat linkage for most wildlife species. The irrigation canals are not large enough to support large populations of birds, amphibians and other wildlife species associated with water and riparian vegetation; however, it could provide stopover habitat for migratory species. The agriculture fields provide habitat for migratory birds that forage in open fields. As such, the Project site likely does not serve as an important wildlife corridor or habitat linkage for larger mammals and species that are limited to native habitats but does provide foraging or stopover habitat for migratory birds.

B. Drew Switchyard and Gen-Tie Lines

The area encompassed by the Drew Switchyard and Gen-Tie Lines contains Disturbed Habitat and Urban/Developed area (refer to **Figure 4.12-2**).

4.12.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines as listed in Appendix G. The Project would result in a significant impact to biological resources if it would result in any of the following:

a) 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

b) 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

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

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting a biological resource, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Definition of Impacts

Two types of impacts are identified with regard to analyzing the potential effects of the proposed Project on biological resources.

Direct Impacts refer to 100% loss of a biological resource. For purposes of this report, direct permanent impacts refer to the areas where the development, roads, and other features are proposed. Direct temporary impacts refer to the areas where grading and temporary construction areas are proposed within the open space; these areas will be restored and thus are considered temporary. Direct impacts were quantified by overlaying the proposed impacts on GIS-located biological resources.

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the proposed development, roads, and other features. Indirect impacts may affect areas within the defined project area but outside the limits of grading, non-impacted areas, and areas outside the project area, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to development of the project site. In most cases, indirect effects are not quantified, but in some cases quantification might be included, such as using a noise contour to quantify indirect impacts to nesting birds.

B. METHODOLOGY

The Biological Resources Report prepared for the proposed Project describes the existing biological resources located within the vicinity of the Project; details the methodologies used to assess potential impacts to sensitive habitats and species; provides results of the assessment; and presents avoidance, minimization, and mitigation measures to reduce potential impacts (Dudek 2018c).

LiteratureReview

Special-status biological resources present or potentially present on site were identified through an extensive literature search using the following sources: U.S. Fish and Wildlife Service Critical Habitat and Occurrence Data (USFWS 2017a), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2017c), California Native Plant Society's (CNPS) *Online Inventory of Rare and Endangered Vascular Plants* (CNPS 2017 in Dudek 2018c).

For the jurisdictional delineation, Dudek reviewed aerial maps from Bing (2017); the USFWS National Wetlands Inventory (NWI) (USFWS 2017b in Dudek 2018c); the USGS National Hydrography Dataset (NHD) (USGS 2017); the State List of Hydric Soils (USDA 2017b) in Dudek 2018c; and historical aerials and topographic maps (Google Earth 2017; Historic Aerials Online 2017). The NHD contains water features such as lakes, ponds, streams, rivers, canals, dams, and stream gages (USGS 2017b in Dudek 2018c). The USFWS created the NWI to "provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts" (USFWS 2017b in Dudek 2018c). Potential wetlands and waters are mapped by the USFWS based on aerial images and that data is provided to the public. This compilation of data was reviewed to gain a better understanding of the hydrologic setting of the study area.

Field Reconnaissance

General Biological Survey

A general biological survey of the approximate 855-acre Project Area (**Figure 4.12-1**) was conducted by Dudek Biologist Marshall Paymard and Callie Amoaku on December 5, 2017 and by Shana Carey on April 12, 2018 (**Table 4.12-6**). The biological survey included the mapping of vegetation communities and land covers present within the Project Area, an evaluation of jurisdictional wetlands or waters, and an evaluation of the potential for special-status species to occur on the Project Area.

TABLE 4.12-6
GENERAL BIOLOGICAL SURVEY CONDITIONS

Date	Time	Personnel	Survey Conditions
12/05/2017	1200–1645	Marshall Paymard Callie Amoaku	69–58 Degrees Fahrenheit (°F) , 10%-40% cloud cover (cc), 0–1 miles per hour (mph) wind
4/12/2018	1115–1333	Shana Carey	76–81°F; 0% cc, 8–11 mph wind

Source: Dudek 2018c.
°F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

Focused Burrowing Owl Surveys

Biological surveys for burrowing owl included a habitat assessment, followed by focused surveys in suitable habitat (e.g., grasslands, disturbed lands, and other open habitats where suitable burrow resources exist, and are relatively flat or have low slopes) within the Project Area and a 200-foot buffer surrounding the Project Area (**see Figure 4.12-1**). Biologists conducted surveys pursuant to the survey

guidelines outlined in Appendix D of the Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game [CDFG] 2012).

Dudek wildlife biologists Ben Delancey, Abby Bergsma, and Shane Valiere conducted a four-pass survey for burrowing owl between April 12, 2017 and September 28, 2017, which captured the majority of the breeding season as well as the beginning of the migration period (**Table 4.12-7**). The survey consisted of the Project Area excluding paved roads and other developed areas and a 200-foot buffer (**Figure 4.12-1**). The survey consisted of walking the entire survey area where suitable open habitat occurred, while searching for burrowing owls, sign (i.e., owl pellets, molted feathers, abundant insect remains, white wash, etc.), and potential burrow sites. The survey was conducted such that 100% coverage of the entire Project Area, plus a 200-foot buffer where legal access was granted, was covered (i.e., approximate 50-foot transects were walked across the entire site). Climatic conditions at the time of the survey were within protocol guidelines (CDFG 2012) where suitable burrow resources are present.

TABLE 4.12-7
SCHEDULE OF BURROWING OWL SURVEYS

Date	Personnel	Survey Pass	Time	Conditions (temperature, cloud cover, and wind)
4/12/2017	BD	1	8:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/13/2017	BD, AB	1	7:00 AM–10:45 AM	70–80°F; 10% cc; 3 mph wind
4/14/2017	BD, AB	1	6:15 AM–10:55 AM	56–73°F; 0–10% cc; 0–3 mph wind
6/02/2017	SV	2	6:41 AM–11:45 AM	75–87°F; 0% cc; 0–1 mph wind
6/22/2017	SV	3	6:48 AM–10:40 AM	84–99°F; 0% cc; 0–4 mph wind
9/28/2017	SV	4	7:20 AM–11:05 AM	67–87°F; 0% cc; 0–2 mph wind

Source: Dudek 2018c.

Notes: BD = Ben Delancey; AB = Abby Bergsma; SV = Shane Valiere; °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour.

Vegetation Mapping

The survey was conducted on foot to visually cover 100% of the Project Area. A 300-scale (i.e., 300 feet = 1 inch) aerial photograph map (Bing 2017) with an overlay of the Project Area was utilized to map the vegetation communities and record any special-status biological resources directly in the field.

Plant community classifications follow the List of Vegetation Alliances and Associations with modifications to accommodate the lack of conformity of the observed communities to those of California Department of Fish and Game (CDFG) (CDFG 2010 in Dudek 2018c). Vegetation community and land cover mapping was conducted for the Project Area. Observable biological resources including perennial plants and conspicuous wildlife (i.e., birds and some reptiles) commonly accepted as regionally sensitive by CDFW and USFWS were recorded on the field map, where applicable. Following completion of the field work, Dudek Geographic Information System (GIS) specialist Andrew Greis digitized the mapped results using ArcGIS and calculated coverage acreages using ArcCAD. The structure of dominant layer, associated species and estimated absolute cover, total vegetative cover of each strata, approximate stand size, disturbance information, other observations, and photographs were used.

Jurisdictional Delineation

Dudek conducted a formal (routine) jurisdictional delineation within the Project Area. The Project Area was surveyed on foot for areas under the jurisdiction of the Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act, Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the federal Clean Water Act and the Porter- Cologne Water Quality Control Act, and the CDFW pursuant to Section 1600 of the California Fish and Game Code.

CDFW asserts jurisdiction over rivers, streams, and lakes, and riparian vegetation associated with these features. Waters of the state (WS) were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and drainage swales. These characteristics are based on the CDFW guidance document, *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010 in Dudek 2018c).

RWQCB typically asserts jurisdiction over the same areas as USACE. Non-wetland waters subject to USACE and RWQCB jurisdiction were delineated based on the presence of an ordinary high water mark (OHWM), as determined by USACE guidance (USACE 1987 in Dudek 2018c). Wetland waters subject to USACE and RWQCB jurisdiction were mapped based on methods described in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987 in Dudek 2018c) and the Regional Supplement to the Corps of Engineers Wetland

Delineation Manual: Arid West Region (USACE 2008b in Dudek 2018c). A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a) and the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010 in Dudek 2018c). Pursuant to the federal Clean Water Act, USACE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the USACE manual: hydric soils, hydrology, and hydrophytic vegetation. To assist in the determination of jurisdictional areas, data was collected at three data stations (Appendix A of the Biological Resources Report included in **Appendix K** of this EIR). Hydrology, vegetation, and soils were assessed, and data were collected on approved USACE forms. The site was evaluated for evidence of an OHWM, surface water, saturation, and wetland vegetation. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations. The location of data stations and the limits of wetlands were collected in the field using a 300-scale (1 inch = 300 feet) aerial photograph, topographic base, and Trimble GeoXT GPS unit with sub-meter accuracy. The jurisdictional extents were digitized in GIS based on the 1-foot contours (Revolution Labs 2017 in Dudek 2018c), GPS data and data collected directly onto field maps into a Project-specific GIS using ArcGIS software. A more detailed description of the methods is described below.

Hydrophytic Vegetation

During the delineation, a data station point was considered positive for hydrophytic vegetation if it passed the basic dominance test (Indicator 1), meaning that more than 50% of the dominant species sampled were characterized as either obligate, facultative wetland, and/or facultative per the *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016 in Dudek 2018c), or if it passed the prevalence index (Indicator 2), which takes into account all plant species in the community, not just dominants. The standard plot sampling technique was used to sample vegetation within a 10-foot radius for herbaceous vegetation and a 30-foot radius for trees, shrubs, and woody vines (USACE 1987 in Dudek 2018c). All plant species observed during the surveys were identified and recorded (see Appendix B of the Biological Resources Report included in **Appendix K** of this EIR).

Hydric Soils

According to the National Technical Committee for Hydric Soils, hydric soils are "soils that are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (USDA 2017b in Dudek 2018c). Soil pits were prepared using a "sharp shooter" shovel to determine if hydric soils were present. The presence of hydric soils was determined through consultations with the *USACE 1987 Wetlands Delineation Manual* (USACE 1987 in Dudek 2018c) as well as Field Indicators of Hydric Soils in the United States (USDA and NRCS

2017) and *USACE's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008b in Dudek 2018c). Munsell Soil Color Charts were used to determine soil chroma and value. Where feasible, soil pits were prepared to depths ranging from 16 to 18 inches. Dry soils were moistened to obtain the most accurate color. In general, soils from test pits were determined to be hydric if found to be of a chroma one or chroma two with mottles. Excavated soils were examined for evidence of hydric conditions, including low chroma values and mottling, vertical streaking, sulfidic odor, and high organic matter content in the upper horizon. Evidence of previous ponding or flooding was assessed, along with the slope, slope shape, existing landform characteristics, soil material/composition, and hydrophytic vegetation to determine if hydric soils were present.

Hydrology

In accordance with the guidelines prescribed in *USACE's Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008b in Dudek 2018c), wetland hydrology indicators are separated into four major groups: Group A, B, C, and D. Group A indicators are based on direct observations of surface flow, ponding, and soil saturation/groundwater. Group B indicators consist of evidence that the site has been or is currently subjected to ponding, including, but not limited to water marks, drift deposits, and sediment deposits. Group C indicators include signs of previous and/or current saturation, including oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur, both of which are indicative of extended periods of soil saturation. Group D indicators consist of "vegetation and soil features that are indicative of current rather than historic wet conditions and include a shallow aquitard and results of the FAC-Neutral test." Each group is subdivided into primary and secondary categories based on their frequency and reliability to occur in the Arid West region. See Appendix A of the Biological Resources Report included in **Appendix K** of this EIR for the completed data station forms.

Flora

All plant species encountered during the field survey were identified and recorded directly into a field notebook. Those species that could not be identified immediately were brought into the laboratory for further investigation and identification. A compiled list of plant species observed in the Project site is presented in Appendix B of the Biological Resources Report included in **Appendix K** of this EIR.

Latin and common names for plant species with a California Rare Plant Rank (CRPR) (formerly CNPS List) follow the *CNPS On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2017). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2017 in Dudek 2018c) and common names follow the *List of Vegetation Alliances and Associations* (CDFG 2010 in Dudek 2018c) or the United States Department of Agriculture Natural Resources Conservation Service's Plants Database (USDA 2017a).

Fauna

Surveys for burrowing owl were conducted pursuant to the CDFG (2012) survey guidelines. Biologists recorded burrowing owl observations, potential burrowing sites, and owl sign found within the Project Area. Other wildlife species observed or detected the general and focused biological survey by sight, calls, tracks, scat, or other signs were recorded. Binoculars (10 mm × 40 mm) were used to aid in the identification of observed wildlife. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2012 in Dudek 2018c) for reptiles and amphibians, American Ornithologists' Union (AOU) (2016) for birds, Wilson and Reeder (2005 in Dudek 2018c) for mammals, North American

Butterfly Association (NABA) (2001 in Dudek 2018c) or San Diego Natural History Museum (SDNHM) (2002 in Dudek 2018c) for butterflies, and Moyle (2002 in Dudek 2018c) for fish. All wildlife species observed during the surveys were identified and recorded (see Appendix C of the Biological Resources Report included in **Appendix K** of this EIR).

C. Issues Scoped Out as Part of the Initial Study

Checklist criterion "f" was eliminated from further evaluation because Imperial County does not have a Habitat Conservation Plan (HCP). Thus, no conflicts or impacts would occur between the proposed Project and an adopted HCP.

BLM has adopted the Desert Renewable Energy Conservation Plan (DRECP), which provides protection and conservation of desert ecosystems while allowing for appropriate development of renewable energy Projects. The Draft DRECP was originally developed as an HCP/Natural Community Conservation Plan (NCCP) and a BLM Land Use Plan Amendment covering both public and private lands across seven counties, including Imperial County. In October 2015, the DRECP BLM Land Use Plan Amendment and Final EIS, which addresses renewable energy, land use, and conservation on BLM lands only, was released (USBLM 2015 in Dudek 2018c). Although the DRECP plan area includes the Project area, the DRECP currently only applies to renewable energy Projects on BLM-managed lands and therefore would not be applicable to the proposed Project. The DRECP does not preclude or otherwise prevent or restrict development of renewable energy projects outside of BLM-managed land. Therefore, the proposed Project would not conflict with the goals and policies of the DRECP.

The proposed Project is not located within any other local, regional, or state conservation planning areas. The Project would have no impact on an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

D. Project Impacts and Mitigation Measures

Impacts to Special Status Species (Burrowing Owl)

Impact 4.12.1 The Project Area contains suitable habitat for burrowing owl. Several owls were discovered during field surveys of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** under both the Full Build-out and Phased CUP Scenarios.

FULL BUILD-OUT SCENARIO AND PHASED CUP SCENARIOS

Special-Status Wildlife

As described the in **Table 4.12-5**, burrowing owl is the only special-status species that was observed in the Project site during biological surveys conducted in 2017. Two other special-status wildlife species have at least a moderate potential to occur in the proposed Project site: California black rail and Yuma Ridgeway's rail. Potential impacts to each are discussed below under construction impacts and operation impacts. No other special-status wildlife species have high or moderate potential to occur.

Construction

Direct Impacts

Two types of construction-related direct impacts can potentially occur to special-status wildlife species: impacts to habitat and impacts to the species from injury or mortality of individuals of the species. Impacts causing injury or mortality of individuals could include crushing of low-mobility species during grading, entombment of burrowing species during grading, collisions with construction equipment, and

destruction of bird nests during vegetation removal or grading. Construction-related indirect impacts include noise, human activity, and dust.

Burrowing owls and active burrow sites were recorded within the Project site during focused surveys conducted in 2017. Potential construction-related direct impacts to burrowing owl could result from unintentional clearing, trampling, or grading outside of the construction zone. Additionally, ground disturbances could potentially result in destruction of burrowing owl dens, destruction of nests, eggs, and young, and entombment of adults. Burrowing owls could be affected by construction-related noise and increased human presence. Burrowing owl is an SSC that has experienced declines in California and loss of individuals, destruction of occupied nests, and indirect impacts that result in either of these impacts are prohibited by federal and state law and considered a **potentially significant impact** under both the Full Build-out and Phased CUP Scenarios.

Operational

Solar Energy Generation Component

Potential impacts to burrowing owl during Project operations could result from lighting, noise, dust, increased human activity, collision hazards, electromagnetic affects, and altered hydrology generated from the solar and energy storage facilities.

All permanent lighting would be low-profile fixtures that point inward toward the solar energy facility with directional hoods or shades to reduce light from shining into the adjacent habitat and disturbing birds or exposing them to increased visibility by predators. In addition, any lighting not required daily for security purposes will have motion sensor or temporary use capabilities. As such, no significant impact under CEQA due to lighting is anticipated to occur to migratory birds because the vast majority of the light will be directed onto the facility, not onto adjacent habitat and because the lights will not be on continuously. Thus, the lighting will not interfere substantially with the movement of migratory bird species or have a substantial effect on habitat.

The Project Area is actively farmed and there are solar facilities operating to the east and south of the Project. No equipment or components are anticipated to produce noise that would exceed ambient noise in the vicinity (refer to Section 4.8, Noise). No significant impact under CEQA due to noise would occur to migratory birds because their movement and habitat will not be substantially affected under both the Full Build-out and Phased CUP Scenarios.

Dust from vehicles could affect suitable habitat for special-status species. Increased human activity can deter wildlife from using habitat areas near the Project site as well as increase the potential for vehicle collisions.

The proposed Project could also potentially increase the risk of collisions due to sky reflection (or "pseudo-lake effect"). Although avian collisions with towers and structures have been well documented, there are few published papers that study the possibility that large areas of solar PV panels in the desert environment may mimic water bodies and inadvertently attract migrating or dispersing wetland bird species. Polarized reflections from solar PV arrays have been observed to attract insects, which could in turn attract other sensitive wildlife, such as bats, but the magnitude of this effect is unknown, since no comprehensive scientific studies have been conducted for this potential phenomenon.

Anecdotal studies are beginning to show that some gleaning bat species may actually benefit from solar facilities and use those facilities for foraging purposes more than adjacent areas. Currently, the research is insufficient to assess the magnitude or likely risk associated with collisions with solar fields. The solar PV modules would be coated to be non-reflective and are designed to be highly absorptive of all light that strikes the glass surface. Based on the evidence available—non-reflective design of the solar panels,

distance from large water bodies, distance from agricultural areas, typical migration patterns, comparatively few documented deaths—glare and pseudo-lake effect are not expected to result in significant impacts to migrating or local avian species.

It is known that migrating birds use electromagnetic directional senses and that artificial electromagnetic pulses can cause a response in some migration behaviors in some species However, there is very little scientific information available, and a discussion of the potential Project impacts would be speculative.

Water would be used for operational purposes for cleaning the solar modules and for reapplication of the nontoxic permeable soils stabilizers that may alter the on-site hydrologic regime. These hydrologic alterations may affect special-status wildlife species. Water, and associated runoff, used during operation and maintenance activities will be contained within the proposed Project Area, thereby reducing those impacts to less than significant. Overall, operational impacts are considered **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Drew Switchyard and Gen-Tie Lines

Bats are not expected to be affected by collision with the static facilities as they would "view" or "see" these facilities (through echolocation) as any other stable physical obstacle in their environment (like boulders, trees, and buildings). If not installed underground, overhead gen-tie transmission lines would increase the potential for avian collisions. This is considered a **potentially significant impact** under both the Full Buildout and Phased CUP Scenarios.

Potential indirect impacts associated with dust, increased human activities and collisions are considered a **potentially significant impact** under both the Full Buildout and Phased CUP Scenarios. Mitigation measure MM 4.12.1a minimizes long-term effects from dust by imposing speed limits on site and limits allowed activities to reduce effects from increased human activity; Mitigation measure MM 4.12.1b provides worker training operational staff to minimize impacts associated with increased human activity; and Mitigation measure MM 4.12.1e requires all transmission towers and lines to implement measures that protect raptors and other birds from electrocution.

Decommissioning/Reclamation

Similar to construction, decommissioning will consist of various activities with potential for impacts if burrowing owls are present on or around the vicinity of the Project site. This is considered a **potentially significant impact**. Following reclamation, lands would be restored to current conditions.

Mitigation Measures

MM 4.12.1a General Avoidance and Minimization Measures

Debris/Non-native Vegetation/Pollution

- Fully covered trash receptacles that are animal-proof will be installed and used onsite to contain all food, food scraps, food wrappers, beverage containers, and other miscellaneous trash.
- No litter or debris will be discharged into state-jurisdictional waters.
- Work areas shall be kept clean of debris, such as trash, and construction materials.
- Vehicle and Equipment Restrictions and Maintenance

- Night-time construction should be minimized to the extent possible. However, if night-time activity (e.g., equipment maintenance) is necessary, then the speed limit shall be 10 mph.
- Vehicle operation within jurisdictional resources when surface water is present will be prohibited except as necessary to perform work in IID facilities pursuant to USACE, RWQCB, and/or CDFW permits and/or authorizations. Any equipment or vehicles driven and/or operated within or adjacent to a state-jurisdictional channel will be checked and maintained by the operator daily to prevent leaks of oil or other petroleum products that could be deleterious to aquatic life if introduced to the watercourse.
- Vehicles and equipment access will be limited to the identified impact areas and speed limit of 15 mph will be enforced. The work areas and sensitive areas will be flagged prior to construction in order to ensure construction activities remain within the approved work limits. During operations and maintenance, vehicles and equipment will be restricted from entering sensitive habitat, and limited to maintenance access roads, where feasible, and the minimal area necessary to perform the work.
- Staging and storage areas for spoils, equipment, materials, fuels, lubricants, and solvents will be located outside the state-jurisdictional channels and within the designated impact area. Stationary equipment, such as motors, pumps, generators, compressors, and welders, located adjacent to state-jurisdictional waters shall be positioned over drip-pans or other containment. Prior to refueling and lubrication, vehicles and other equipment shall be moved away from the jurisdictional waters.

Other Restrictions on Activities and Personnel

- No pets, such as cats or dogs, permitted on the Project site during construction or operations and maintenance.
- Any contractor, employee, or agency personnel who kills, injures, or traps a wildlife species shall immediately report the incident to the Project biologist during construction and the operations manager during operations and maintenance.
- All pipes, culverts, or similar structures with a diameter of 4 inches or more that are stored at a construction site for one or more overnight periods shall be thoroughly inspected for special-status wildlife and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved in any way, and subsequently covered to prevent entry to nesting birds and other wildlife. If an animal is discovered inside a pipe, that section of pipe shall not be moved until the Project biologist has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated by a qualified biologist.

Timing/Implementation: *During construction and operation, as appropriate/Applicant and Project Contractor.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

MM 4.12.1b Environmental Awareness Training, Biological Monitoring, and Compliance

Worker Environmental Awareness Program and Ongoing Training

Prior to the initiation of any on-site grading, all construction/contractor personnel working on site must complete training through a Worker Environmental Awareness Program (WEAP). New construction workers engaged in construction activities (e.g., grading, utility installation, etc.) shall complete WEAP training within the first week of deployment on the site. Additionally, operational staff shall complete WEAP training prior to deployment on the site.

Biological Monitoring and Compliance Documentation

- The Project biologist shall perform the biological monitoring and compliance documentation for the Project during construction, including the following:
- Prior to the initiation of any on-site grading, the Project biologist will document that required pre-construction surveys and/or relocation efforts have been implemented.
- The Project biologist will periodically monitor activities during initial grading.
- The Project biologist will note any evidence of trash and, if present, communicate the presence and requirement to remove the trash to the construction manager.
- The Project Biologist shall have the following minimum qualifications: (1) Have a bachelor's degree in biological sciences, zoology, botany, ecology or a closely related field; (2) Have at least 2 years of experience in biological compliance for construction projects; and (3) Have at least 1 year of field experience with biological resources found in the geographic region of the Project.

Timing/Implementation: *During construction and operation, as appropriate/Applicant, Project Contractor and Operator.*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

MM 4.12.1c Burrowing Owl Surveys and Avoidance/Relocation.

- No more than 14 days prior to ground-disturbing activities (vegetation clearance, grading), a qualified wildlife biologist (i.e., a wildlife biologist with previous burrowing owl survey experience) shall conduct pre-construction take avoidance surveys on and within 656 feet of the construction zone (where safe and legally accessible) to identify occupied breeding or wintering burrowing owl burrows. The two-pass take avoidance burrowing owl surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (2012 Staff Report; CDFG 2012) and shall consist of walking parallel transects 22 feet to 65 feet apart, adjusting for vegetation height and density as needed, and noting any suitably sized burrows with fresh burrowing owl sign or presence of burrowing owls. As each burrow is investigated, biologists shall also look for signs of American badger and desert kit fox. Copies of the burrowing owl survey results will be submitted to the CDFW.

- If burrowing owls are detected on site, no ground-disturbing activities will be permitted within 656 feet of an occupied burrow during the breeding season (February 1 to August 31), unless otherwise authorized by CDFW. During the nonbreeding season (September 1 to January 31), ground-disturbing work can proceed near active burrows as long as the work occurs no closer than 165 feet from the burrow. Depending on the level of disturbance, a smaller buffer may be established in consultation with CDFW.

- If avoidance of active burrows is infeasible during the nonbreeding season, then, before breeding behavior is exhibited and after the burrow is confirmed empty by site surveillance and/or scoping, a qualified biologist shall implement a passive relocation program in accordance with Appendix E (i.e., Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans) of the 2012 Staff Report. Passive relocation consists of excluding burrowing owls from occupied burrows by closing or collapsing the burrows and providing suitable artificial burrows nearby for the excluded burrowing owls.

- Where required buffering will not be feasible, passive relocation is an option in consultation with CDFW, but it is preferred to install appropriate artificial burrows (in accordance with the negotiated Plan) and then let the owls decide whether they would like to abandon the existing burrow. Only burrows that are in danger by construction should be collapsed if at all possible.

- A Burrowing Owl Relocation Plan will be prepared and approved by CDFW prior to commencement of burrowing owl exclusion activities if this method of mitigation is required. The plan will detail the procedures of the passive relocation effort, the location of constructed replacement burrows, design of replacement burrows, and post relocation monitoring requirements.

Timing/Implementation: *No more than 14 days prior to ground-disturbing activities/ qualified wildlife biologist.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

MM 4.12.1d Nesting Bird Pre-Construction Surveys and Avoidance Plan

- The Project biologist shall conduct pre-construction surveys no earlier than 7 days prior to any on-site grading and construction activities that occurs during the nesting season defined as February 1 – September 15 or as determined by the Project biologist. Pre-construction surveys shall be conducted within the designated construction area and a 500-foot buffer (where safe and legally accessible). Burrowing owl measures are addressed in MM 4.12.1c.

- The purpose of the pre-construction surveys will be to determine whether occupied nests are present in the construction zone or within 500 feet of the construction zone boundary on lands that are legally accessible.

- If occupied nests are found, then limits of construction to avoid occupied nests shall be established by the Project biologist in the field with flagging, fencing, or other appropriate barriers (e.g., 250 feet around active passerine nests to 500 feet around active raptor nests), and construction personnel shall be instructed on the

sensitivity of nest areas. The Project biologist may adjust the 250-foot or 500-foot setback at his or her discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation the setback may be reduced). Once a Project biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, construction may proceed.

Timing/Implementation: *No earlier than 7 days prior to any on-site grading and construction activities that occurs during the nesting season/ Project biologist.*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

MM 4.12.1e Transmission Line Design

All transmission towers and lines are designed to conform to Avian Power Line Interaction Committee (APLIC) standards. APLIC standards identify the necessary physical separation between energized and/or grounded structures, conductors, hardware, or equipment to avoid the potential for that to be bridged by birds, thus avoiding the potential for electrocution. The proposed Project shall implement recommendations by the APLIC (2006, 2012) to protect raptors and other birds.

Timing/Implementation: *During Project design/As part of Project construction*
Enforcement/Monitoring: *Imperial County Planning and Development Services Department.*

Significance After Mitigation

Mitigation measure MM 4.12.1a (general construction-related avoidance and minimization measures) would limit vehicles and construction equipment to identified non-impact areas and would limit ingress and egress to established roads. Mitigation measure MM 4.12.1b (WEAP training, biological monitoring, and compliance) would further ensure no take of, and avoidance of impacts to, burrowing owls. Construction mitigation measure MM 4.12.1c (burrowing owl pre-construction surveys and avoidance/relocation plan) and MM 4.12.1d (nesting bird pre-construction surveys and avoidance plan) would result in identification of any burrowing owls present at the time of construction within areas potentially impacted by the Project, establishment of appropriate buffers, and avoidance/minimization of impacts to burrowing owl. Following implementation of mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c and MM 4.12.1d, construction-related direct impacts to burrowing owl would reduced to **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Lastly, mitigation measure MM 4.12.1e requires the Project to implement recommendations by the APLIC. With implementation of this measure, potential for raptors and other birds to be electrocuted would be reduced to **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Impacts to Special Status Species (California Black Rail and Yuma Ridgeway's Rail)

Impact 4.12.2 Suitable habitat for California Black Rail and Yuma Ridgeway's Rail is present within irrigation ditches located within the boundaries of the Project site. Therefore, potential for impacts to special status species is considered **potentially significant** during Project construction under both the Full Buildout and Phased CUP Scenarios.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

California black rail and Yuma Ridgeway's rail were not recorded during the 2017 surveys. However, suitable habitat occurs in small quantities within the irrigation drains and laterals throughout the Project site. Focused surveys were not conducted within the proposed Project site, therefore, impacts are conservatively based upon the presence of a small amount of suitable habitat within the drains and laterals.

The closest record for Yuma ridgeway's rail is located approximately five miles north and for California black rail, approximately 8.5 miles north. Potential construction-related direct impacts to California black rail and Yuma Ridgeway's rail could result from unintentional clearing, trampling, or grading outside of the construction zone. Very small potential impact areas are located within the IID drains (see **Figure 4.12-2**), which are required to install drainage connections. Direct impacts to suitable habitat total approximately 0.03 acre spread among various drainage connections. Therefore, loss of such a small amount of potential habitat is less than significant. Ground disturbances could potentially result in destruction of nests, eggs, and/or young if one of both of these species nests on site. Rails could be affected by construction-related noise and increased human presence. Loss of individuals or destruction of nests, or indirect impacts that cause loss of individuals, is considered a **potentially significant impact** during Project construction under both the Full Buildout and Phased CUP Scenarios.

Operation

Once the Project is in operation, no habitat for California black rail and Yuma Ridgeway's rail would be present. Therefore, **no impact** to California black rail or Yuma Ridgeway's rail would occur during Project operation.

Decommissioning/Reclamation

As discussed under "Operation", no habitat for California black rail and Yuma Ridgeway's rail would be present during Project decommissioning. Thus, potential for impacts is considered **less than significant** under both the Full Buildout and Phased CUP Scenarios. Once reclamation is complete, habitat may again reestablish as the Project site would reclaimed to its original condition

Mitigation Measures

Implement mitigation measure MM 4.12.1a, MM 4.12.1b and MM 4.12.1d.

Significance After Mitigation

Construction mitigation measure MM 4.12.1a (general construction-related avoidance and minimization measures) would limit vehicles and construction equipment to identified non-impact areas and would limit ingress and egress to established roads. Mitigation measure MM 4.12.1b (WEAP training, biological monitoring, and compliance) would further ensure avoidance of impacts to California black rails and Yuma Ridgeway's rails. Mitigation measure MM 4.12.1d (nesting bird pre-construction surveys and avoidance plan) would result in identification of any California black rails and Yuma Ridgeway's rails within areas potentially impacted by construction of the Project, establishment of appropriate buffers, and avoidance of impacts to California black rail and Yuma Ridgeway's rail. Following implementation of these mitigation measures, construction-related direct impacts to California black rail and Yuma Ridgeway's rail would be avoided and thereby reduced to **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Impacts on Riparian Habitat, Wetland Community or other Sensitive Natural Community (Arrow Weed Thicket and Cattail Marsh Alliance)

Impact 4.12.3 The Project site contains Arrow Weed Thickets and Cattail Marshes Alliance. Arrow Weed Thicket is a sensitive biological resource under CEQA and Cattail Marshes Alliance is a wetland community, which is typically afforded protection under CEQA and the Clean Water Act. Implementation of the proposed Project would require permanent removal of both vegetation communities within the boundaries of CUP#17-0033. This is considered a **potentially significant impact** during Project construction under both the Full Buildout and Phased CUP Scenarios.

CUP#17-0033

Construction

Special-status or sensitive vegetation communities found within the Project Area includes arrow weed thickets alliance. Although not considered a sensitive vegetation community according to the Natural Communities List (CDFG 2010), an additional wetland/riparian vegetation community is found within the Project site: cattail marshes alliance. Sensitive vegetation communities are located within IID drainage facilities that are not anticipated for improvements beyond minor drain improvements (e.g. installation of new drain outflow pipes which reduce erosion within the IID drains) and 34.5-kV collection crossings.

All ground-disturbing impacts will occur within the Project Area. The approximate acreage of impacts to vegetation and land cover types by CUP is provided in **Table 4.12-8** based on the preliminary impact footprint that has been determined at this time. **Figure 4.12-2** shows the areas where impacts are anticipated to occur and is subject to change based on final engineering design.

TABLE 4.12-8
POTENTIAL GROUND-DISTURBING IMPACTS TO VEGETATION AND LAND COVERS (ACRES) BY CUP

Vegetation Communities	Permanent Impact Acres	CUP #17-0031	CUP #17-0032	CUP #17-0033	CUP #17-0034	CUPs #17-0035 #18-0001
Arrow Weed Thickets	0.02	--	--	0.02	--	--
Cattail Marshes Alliance	<0.01	--	--	0.01	--	--
Tamarisk Thickets	0.01	--	--	0.01	--	--
Land Covers	**Permanent Impact Acres**	**CUP #17-0031**	**CUP #17-0032**	**CUP 3 #17-0033**	**CUP 4 #17-0034**	**CUPs #17-0035 #18-0001**
Open Water	<0.01	--	0.01	--	--	--
Agriculture	749.86	152.12	160.9	152.41	156.26	128.2
Disturbed Habitat	23.05	7.34	2.16	5.5	8.01	
Total Acreage*	**772.95**	159.46	163.07	157.95	164.27	128.2

Source: Dudek 2018c.
*Total acreages may not sum due to rounding.

As shown in **Table 4.12-8** and illustrated in **Figure 4.12-2**, the proposed Project will potentially permanently impact two sensitive vegetation communities/regulated resources on CUP#17-0033: arrow weed thickets alliance and tamarisk thickets. In addition, cattail marsh is a wetland community which is typically afforded protection under CEQA and the Clean Water Act. Despite the small quantity of acreage affected, impacts to riparian habitat or other sensitive natural community are considered **potentially significant** within the boundaries of CUP#17-0033 under both the Full Buildout and Phased CUP Scenarios.

Operation

During operations, vegetation on the site would be maintained and controlled thus making it unlikely that vegetation communities such as Arrow Weed Thickets, Cattail Marshes Alliance and Tamarisk Thickets would re-establish. Invasive/weedy species would be controlled and any non-invasive vegetation that re-establishes within the Project site would be controlled within the solar field. Vegetation growing within the boundaries of the Project site would be removed manually. Therefore, impacts to riparian habitat or other sensitive natural community are considered **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Decommissioning/Reclamation

During decommissioning, all solar field components and the two Gen-Tie lines will be removed. Because the site would have been maintained during operations, sensitive vegetation communities would not have reestablished on the Project site. Therefore, impacts to riparian habitat or other sensitive natural community are considered **less than significant** during decommissioning under both the Full Buildout and Phased CUP Scenarios. Following reclamation, the site will be reclaimed to its original condition.

Mitigation Measures

MM 4.12.3 CUP#17-0033 - Federal and State Agency Permits

To comply with the state and federal regulations for impacts to jurisdictional resources regulated by the United States and State of California, the following permits and agreement shall be obtained, or evidence shall be provided from the respective resource agency satisfactory to the County that such an agreement or permit is not required if development activities are proposed within jurisdictional waters:

- A Clean Water Act Section 404 permit issued by the USACE for all Project-related disturbances of jurisdictional non-wetland waters and/or wetlands.
- A Clean Water Act Section 401 permit issued by the RWQCB for all Project-related disturbances of jurisdictional non-wetland waters and/or wetlands.
- A Section 1602 Streambed Alteration Agreement issued by the CDFW for all Project-related disturbances of any streambed and associated riparian habitat.

Timing/Implementation: *Prior to issuance of a Building Permit/In accordance with USACE, RWQCB and CDFW requirements.*

Enforcement/Monitoring: *Imperial County Planning and Development Services Department, USACE, RWQCB and CDFW.*

Significance After Mitigation

Direct impacts to sensitive vegetation and wetland communities within the boundaries of CUP#17-0033 will be mitigated with implementation of mitigation measure MM 4.12.3 which requires compliance with federal and state agency permits that may include compensatory mitigation or habitat restoration. Following implementation of mitigation measure MM 4.12.3, permanent direct impacts to riparian habitat or other sensitive natural community would be **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Impacts on Wetlands/Jurisdictional Resources

Impact 4.12.4 Implementation of the proposed Project would result in the loss of both wetland waters under the jurisdiction of the USACE as well as riparian habitat during construction within the boundaries of CUP#17-0033. This is considered a **potentially significant impact** under both the Full Buildout and Phased CUP Scenarios.

CUP#17-0033

The approximate acreage of jurisdictional resources impacted (by CUP) by Project construction are summarized in **Table 4.12-9**. **Figure 4.12-2** shows the areas where impacts are anticipated to occur. However, it should be noted that these areas are subject to change based on final engineering design.

Construction

Potential impacts to USACE waters could occur pending final project design (i.e. USACE waters onsite that cannot be avoided) (**Table 4.12-9**). Approximately 0.02 acre of Arrow Weed Thickets along with <0.01 acre of Cattail Marshes and <0.01 of Tamarisk Thickets within the boundaries of CUP#17-0033 would be permanently and directly impacted by Project construction. This is considered a **potentially significant impact** under both the Full Buildout and Phased CUP Scenarios.

Operation

No long-term operations-related direct impacts to jurisdictional waters are expected to occur because these features would be removed during construction and would not reestablish while the Project is in operation. Therefore, impacts on wetlands and jurisdictional resources would be **less than significant** during Project operation under both the Full Buildout and Phased CUP Scenarios.

TABLE 4.12-9
POTENTIAL GROUND-DISTURBING IMPACTS TO JURISDICTIONAL RESOURCES (ACRES) BY CUP

Vegetation Communities	CUP #17-0031 USACE/ RWQCB/ CDFW	CUP #17-0031 CDFW-Only	CUP #17-0032 USACE/ RWQCB/ CDFW	CUP #17-0032 CDFW-Only	CUP #17-0033 USACE/ RWQCB/ CDFW	CUP #17-0033 CDFW-Only	CUP #17-0034 USACE/ RWQCB/ CDFW	CUP #17-0034 CDFW-Only	CUP #17-0035 #18-0001 USACE/ RWQCB/ CDFW	CUP #17-0035 #18-0001 CDFW-Only
Wetland Waters/Riparian Habitat										
Arrow Weed Thickets	--	--	--	--	--	0.02	--	--	--	--
Cattail Marshes Alliance	--	--	--	--	--	--	--	--	--	--
Tamarisk Thickets	--	--	--	--	0.01	0.01	--	--	--	--
Wetland Waters/ Riparian Habitat	--	--	--	--	--	--	--	--	--	--
Subtotal	0	0	0	0	0.01	0.03	0	0	0	0
Vegetation Communities	**CUP #17-0031 USACE/ RWQCB/ CDFW**	**CUP #17-0031 CDFW-Only**	**CUP #17-0032 USACE/ RWQCB/ CDFW**	**CUP #17-0032 CDFW-Only**	**CUP #17-0033 USACE/ RWQCB/ CDFW**	**CUP #17-0033 CDFW-Only**	**CUP #17-0034 USACE/ RWQCB/ CDFW**	**CUP #17-0034 CDFW-Only**	**CUP #17-0035 #18-0001 USACE/ RWQCB/ CDFW**	**CUP #17-0035 #18-0001 CDFW-Only**
Non-Wetland Waters/Streambed										
Open Water	--	--	0.01	--	--	--	--	--	--	--
Non-wetland Waters/Streambed Subtotal	--	--	--	--	0.01	0.01	--	--	--	--
Grand Total	0	0	**0.01**	0	**0.04**	**0.04**	0	0	0	0

Source: Dudek 2018c.
*Total acreages may not sum due to rounding.

Decommissioning/Reclamation

During decommissioning, all solar field components and the two Gen-Tie lines will be removed. Because the site would have been maintained during operations, wetlands and jurisdictional resources would not have reestablished on the Project site. Therefore, impacts to impacts on wetlands and jurisdictional are considered **less than significant** during decommissioning under both the Full Buildout and Phased CUP Scenarios. Following reclamation, the site will be reclaimed to its original condition.

Mitigation Measures

Implement mitigation measure MM 4.12.3, CUP#17-0033 - Federal and State Agency Permits.

Significance After Mitigation

Permanent impacts to jurisdictional waters within the boundaries of CUP#17-0033 will be mitigated through mitigation measure MM 4.12.3 which requires the Applicant to obtain the necessary permits from USACE for impacts to jurisdictional resources and provide compensatory mitigation. As a result, permanent direct impacts to jurisdictional wetlands would be **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Impacts to Wildlife Corridors/Habitat Linkage

Impact 4.12.5 The Project site is primarily surrounded by, and includes, extensive historical and present day agricultural practices. The Project site is also bordered on the east and south by operating solar facilities. Therefore, impacts to wildlife corridors or habitat linkage are considered **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Because the Project site is surrounded by active agricultural land and solar facilities, the site has limited value as a potential wildlife corridor or habitat linkage for most wildlife species. As such, the proposed Project site is not likely to have direct or indirect impacts on movement of any native resident or migratory fish or wildlife species. Therefore, Impacts to wildlife movement would be **less than significant** under both the Full Buildout and Phased CUP Scenarios.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.12.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for considering cumulative impacts on species that use agricultural fields for foraging includes the entire irrigated Imperial Valley, which is part of the Pacific Migration Flyway for birds migrating between as far south as South America and as far north as the arctic circle. The Pacific Migration Flyway serves as an important stopover site for many species for rest and foraging, and, for some, as breeding grounds. Table 3.0-1, Proposed, Approved and Reasonably Foreseeable Projects in the Region, in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, identifies the list of cumulative projects that were considered for this analysis. The County's list of renewable energy projects currently totals approximately 22,257 acres (excluding the proposed Project) converted from agricultural uses (refer to Table 4.9-14, Summary of Agricultural Acreage Temporarily or Permanently Converted in Section 4.9, Agricultural Resources) to other land uses that generally do not support avian species' breeding or foraging needs.

Another potential source of cumulative loss of farm fields as foraging habitat not included in Table 3.0-1 is the Quantification Settlement Agreement (QSA), the State Water Resources Control Board (SWRCB) orders, and IID Water Transfer Agreement. According to IID's Equitable Distribution Plan Negative Declaration (2006), IID implemented a rotation fallowing program to successfully create conserved water to deliver to the Salton Sea with IID plans to increase fallowing incrementally to a maximum of about 25,000 acres (Imperial County 2014, p. 4.12-160).

The IID plans to phase out EDP fallowing in 2018. Thus, losses due to IID's EDP fallowing that are not offset by solar fallowing will overlap with Project-related loss of agriculture for up to three years.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Biological Resources

Impact 4.12.6 Implementation of the proposed Project in combination with other proposed, approved and reasonably foreseeable projects in the region could have cumulative impacts on special status species, sensitive vegetation communities, and jurisdictional waters. However, impacts to biological resources are addressed and mitigated on a project-by-project basis. Therefore, cumulative impacts to biological resources are considered **less than cumulatively considerable** under both the Full Buildout and Phased CUP Scenarios.

FULL BUILD-OUT SCENARIO/PHASED BUILD-OUT SCENARIO

Construction

Construction of both the Full Build-out Scenario and each individual CUP (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario could contribute to cumulative impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement. However, impacts associated with construction would be reduced to less than significant at the Project-specific level with the implementation of mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2.

Loss of Agriculture

As described above, cumulative projects considered for their potential significant cumulative loss to foraging habitat would result in an over 22,000-acre conversion of agricultural land to a non-agricultural land. Like the proposed Project, which would result in a long-term fallowing of agricultural land, most other cumulative projects identified in Table 3.0-1, Proposed, Approved and Reasonably Projects in the Region would also result in a long-term fallowing/agricultural land use conversion. Unlike a permanent conversion of agricultural land to urban or industrial use, the solar projects are considered long-term fallowing because these projects are required to restore the sites back to pre-Project conditions which in the case of the proposed Project is agricultural land.

The proposed Project and all cumulative projects must comply with requirements that reduce and mitigate impacts on biological resources. The Federal ESA, MBTA (16 U.S.C. 703 et seq.) and CFGC Sections 3503.5, 3503, and 3513 are among the statutory and regulatory requirements that the Project and cumulative projects may be required to comply with in order to reduce the effects of reduced farm fields for foraging for those special-status animal species.

CDFW mitigation guidelines for burrowing owl define mitigation measures to avoid and minimize direct effects to this species during construction as well as provide compensatory mitigation for indirect effects caused by loss of foraging habitat. As noted in the discussion of the setting, surveys for burrowing owl were conducted pursuant to the CDFG (2012) survey guidelines. Likewise, mitigation measure MM 4.12.1c requires pre-construction surveys conducted in accordance with the guidelines.

The Imperial County General Plan has provisions to protect biological resources as well as stringent measures to protect agricultural land uses in the Imperial Valley. The Project consistency with the provisions of the Conservation and Open Space Element are analyzed in **Table 4.12-1**, above.

Mitigation for loss of burrowing owl foraging habitat (agricultural fields) provided by the Project (the equivalent of 762.8 acres of core foraging habitat) through short-term farm agreements or conservation

easements contributes to the other cumulative projects' mitigation that are also conserving farm field foraging lands for the benefit of burrowing and other wildlife species. For these reasons, cumulative impacts from the Project and the cumulative projects identified in Table 3.0-1, Proposed, Approved and Reasonably Foreseeable Projects in the Region identified to have potentially significant foraging habitat impacts would be **less than cumulatively considerable** under both the Full Buildout and Phased CUP Scenarios.

The Federal Clean Water Act 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. 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 projects within the geographic scope of the proposed Project (Table 3.0-1, Proposed, Approved and Reasonably Foreseeable Projects in the Region) will be required to mitigate impacts on a project-by-project basis and comply with all applicable local, federal and state laws.

As with the proposed Project, each of the cumulative projects identified in Table 3.0-1, Proposed, Approved and Reasonably Foreseeable Projects in the Region would also be required to provide mitigation for any unavoidable impacts to wetlands and jurisdictional waters. For this reason, the cumulative impact to wetlands and jurisdictional waters from the Project and cumulative projects identified in Table 3.0-1, Proposed, Approved and Reasonably Foreseeable Projects in the Region would be **less than cumulatively considerable** under both the Full Buildout and Phased CUP Scenarios**.**

Finally, BLM and Department of Energy (DOE) analyzed the cumulative impacts of solar development across a six-state study area on biological resources in the Final Solar Programmatic Environmental Impact Statement (PEIS). BLM and DOE concluded that cumulative impacts on wildlife from foreseeable development in the six-state region would be small provided mitigation measures to preserve important habitat and migration corridors are implemented (or sufficient alternative lands are set aside as compensation).

In summary, upon implementation of mitigation measures MMs 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2 construction of the Full Build-out Scenario or Phased Build-out Scenario would result in a **less than cumulatively considerable contribution** to impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement. Likewise, the proposed Project, when combined with other cumulative projects, would result in a **less than cumulatively considerable impact** to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement under both the Full Buildout and Phased CUP Scenarios.

Operation

Operation of both the Full Build-out Scenario and each individual CUP (CUP#17-0031 thru CUP#13-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario could contribute to cumulative impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement. However, the potential Project impacts to biological resources during operations would be reduced to less than significant at the Project-specific level with implementation of mitigation measures MMs 4.12.1a, MM 4.12.1b, MM. 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2.

Operation of the proposed Project would not contribute to loss of agricultural land or foraging habitat beyond that identified in association with construction. Therefore, upon implementation of mitigation measures comply with the legal frameworks set forth above, as well as others. The cumulative actions will be, operation of the proposed Full Build-out Scenario would result in a **less than cumulatively considerable contribution** to impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement. Likewise, operation of the proposed Project, when combined with other cumulative projects, would result in a **less than cumulatively considerable impact** to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement under both the Full Buildout and Phased CUP Scenarios.

Decommissioning/Reclamation

Decommissioning activities within both the Full Build-out Scenario and each individual CUP proposed as part of the Phased CUP Scenario could contribute to cumulative impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, and migratory birds. However, the Project's potential decommissioning-phase impacts to biological resources would be reduced to less than significant at the Project-specific level with implementation of mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2.

Decommissioning of the proposed Project would not contribute to loss of agricultural land or foraging habitat beyond that identified in the construction-phase analysis. Decommissioning would result in the reclamation of the Project area (as a whole) to pre-Project conditions, thereby providing a beneficial contribution to agricultural lands in the County. Therefore, upon implementation of mitigation measures MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2, decommissioning of the proposed Full Build-out Scenario would result in a **less than cumulatively considerable contribution** to impacts to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, and migratory birds. Likewise, decommissioning of the proposed Project, when combined with other cumulative projects, would result in a **less than cumulatively considerable impact** to sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement under both the Full Buildout and Phased CUP Scenarios.

Mitigation Measures

As discussed throughout this section, the proposed Project would be subject to all mitigation measures (MM 4.12.1a, MM 4.12.1b, MM 4.12.1c, MM 4.12.1d, MM 4.12.1e and MM 4.12.2) identified to address Project-specific impacts. Following implementation of the mitigation measures identified above, direct and indirect cumulative impacts to biological resources including sensitive vegetation communities, federal and/or state jurisdictional waters and wetlands, state non-listed special status plant species, federal and/or state listed wildlife species, migratory birds, and wildlife movement would be reduced to less than cumulatively considerable levels. Following mitigation, all cumulative impacts to biological resources would be considered **less than cumulative considerable** under both the Full Buildout and Phased CUP Scenarios.

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SECTION 4.13
PUBLIC SERVICES AND UTILITIES

This section discusses public services and utilities that would serve each of the solar field site parcels / CUP Areas under the Phased CUP Scenario, as well as the Project site collectively under the Full Build-out Scenario. Public services include fire protection and law enforcement. Public utilities include water service, wastewater service, solid waste, electricity, and telecommunications (telephone/internet). Each service is described with regard to existing resources available and potential impacts on each service or utility providers' ability to adequately respond to and serve the proposed Full Build-out Scenario, as well each of the five phased CUP Areas, and whether such service would require an expansion of public facilities that would generate a new significant environmental impact.

4.13.1 FIRE PROTECTION

The following discussion pertains to impacts to fire protection with regard to the Imperial County Fire Department (ICFD). Hazards such as electro-magnetic fields (EMFs) and fire safety hazards associated with the proposed Gen-Tie are discussed in Section 4.10, Hazards and Hazardous Materials.

4.13.1.1 REGULATORY FRAMEWORK

A. STATE

Fire Codes and Guidelines

The 2016 California Fire Code (CFC; Title 24, Part 9 of the California Code of Regulations [CCR]) establishes regulations to safeguard against hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises. The CFC also establishes requirements intended to provide safety and assistance to firefighters and emergency responders during emergency operations. The provisions of the CFC 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 CFC 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 (California Building Standards Commission 2018).

The County of Imperial has adopted the CFC with amendments specific to Imperial County.

B. LOCAL

Imperial County Year 2006 Development Impact Fees Ordinance No. 1418

The Year 2006 Development Impact Fees Ordinance was enacted to address policies regarding New Development in both the Countywide and Unincorporated Areas of Imperial County. The policies require New Developments to supplement the fair share of the costs of public facilities, equipment and services that they necessitate, including public services such as those provided by the Imperial County Fire Department (ICFD). The ICFD serves residential and non-residential development in the unincorporated areas of the County. All Development Impact Fees are addressed based on the demand for services.

Imperial County Office of Emergency Services – Emergency Operations Plan

The Imperial County Office of Emergency Services (OES) provides emergency management services for the County/Operational Area including its seven cities/towns and special districts. OES is mandated by the California Emergency Services Act (Chapter 7, Division 1, Title 2 of Government Code) to serve as the liaison between the State and all the local government political subdivisions comprising Imperial County. The OES establishes the Imperial County /Operational Area Emergency Operations Center (EOC) from which centralized emergency management can be performed during a major emergency or disaster.

The EOC is located in the Heber Public Services Center, where the space serves as the Fire/OES administrative area as well as a training facility. The OES facilitates implementation of the Imperial County Operational Area Emergency Plan (EOP; County of Imperial 2018).

The Imperial County EOP provides a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that produce situations requiring coordinated response. It further provides guidance regarding management concepts relating to response and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property (Imperial County OES 2007).

The EOP is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the U.S. Department of Homeland Security National Incident Management System (NIMS) for managing response to multi-agency and multi-jurisdictional emergencies. The SEMS/NIMS incorporate the use of the Incident Command System (ICS), mutual aid agreements, the operational area concept, and multi/interagency coordination. The proposed Project will comply with all above-referenced regulations and policies.

Imperial County General Plan

The Seismic and Public Safety Element of the Imperial County General Plan includes goals, objectives, policies and programs for land use planning, public safety, emergency preparedness and the control of hazardous materials (County of Imperial 1997a). In addition, the Circulation and Scenic Highway Element includes a goal and objective regarding emergency access (County of Imperial 2008a). **Table 4.13-1** provides a consistency analysis of the applicable Imperial County General Plan goals and objectives relative to the proposed Project. 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.

TABLE 4.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - FIRE PROTECTION

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
SEISMIC/PUBLIC SAFETY ELEMENT		
Land Use Planning and Public Safety		
Goal 1 Include public health and safety considerations in land use planning.	Yes	The proposed Project is a solar energy generating facility located on parcels designated for "Agricultural" uses and zoned either A-2 (Agricultural General), A-2-R (General Agricultural Rural Zone), or A-3 (Heavy Agriculture). Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed in Agricultural zones with a conditional use permit (CUP). The Applicant has applied for six CUPs for the five solar field site parcels to be developed

TABLE 4.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - FIRE PROTECTION

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
		as a solar energy center. A Fire Prevention and Response Plan (FPRP) would be developed and implemented during construction, operation and maintenance, and decommissioning of the Project. The FPRP would identify materials that are potential fire hazards, specify property handling and storage procedures, describe good housekeeping procedures, etc. associated with fire prevention and response. The Project would comply with all applicable health and safety considerations including provision of emergency access and fire water. Therefore, the proposed Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 1.8 Reduce fire hazards by the design of new developments.	Yes	The proposed Project would be designed to incorporate fire safety features including fire alarms on buildings, fire sprinklers in battery storage containers and use of nonflammable materials. The FPRP would also serve to reduce fire hazards. In addition, the ICFD would review all plans prior to Project approval for compliance with applicable CFC and local standards. The ICFD was contacted for input on the proposed Project to address any potential fire or emergency access hazards. Requirements identified in the July 30, 2018 response letter (ICFPB 2018) and all other applicable fire standards will be incorporated into the final Project design and implementation. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - FIRE PROTECTION

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
Emergency Preparedness		
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.	Yes	Refer to responses to Seismic and Public Safety Element Goal 1 and Objective 1.8, above. A FPRP will be developed and implemented, and the Project would be required to comply with all state and local fire codes and ordinances. Therefore, the Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.
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.	Yes	The solar field site parcels are located in a portion of the County characterized by rural agricultural and solar facility uses. According to the Fire Hazard Severity Zone (FHZM) maps prepared by the California Department of Forestry and Fire Protection, none of the solar field site parcels fall within an area characterized under the State Responsibility Area (SRA; CDF 2007b). On the 2007 Draft Map of Local Responsibility Area (LRA) all of the solar field site parcels except the southern half of the Phase 5 parcel (CUP#17-0035 and CUP#18-0001) are identified as areas of Moderate Risk (CDF 2007a). As noted above, a FPRP would be developed and implemented during construction, operation and maintenance, and decommissioning of the Project. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 2.5 Minimize injury, loss of life, and damage to property by implementing all state codes where applicable.	Yes	Refer to responses to Seismic and Public Safety Element Goal 1 and Objective 1.8, above. A FPRP will be developed and implemented, and the Project would be required to comply with all state and local fire codes and ordinances. Therefore, the Project is consistent with this goal for both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.13-1
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - FIRE PROTECTION

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CIRCULATION AND SCENIC HIGHWAY ELEMENT		
Safe, Convenient, and Efficient Transportation System		
Goal 1 The County will provide and require an integrated transportation system for the safe and efficient movement of people and goods within and through the County of Imperial with minimum disruption to the environment.	Yes	Multiple County maintained roads provide access throughout the Project Area and to each CUP (refer to Figure 2.0-3 in Chapter 2.0, Project Description). Access to the Project Area would primarily be via the following paved roads: SR 98, Drew Road, Kubler Road, and Pulliam Road. CUP areas may also be accessed via unpaved roads such as Mandrapa Road. The Project does not propose any features that would restrict access to nearby properties or the County's transportation system for both the Full Build-out Scenario and the Phased CUP Scenario.
Objective 1.17 Assure that road systems are adequate to accommodate emergency situations and evacuation plans.	Yes	Therefore, the proposed Project is consistent with this Goal. Refer to Section 4.3, Transportation and Circulation, for a full discussion of transportation and access. The final site plan for each CUP Area and the Full Build-out Scenario would be designed, developed and implemented in consultation with the ICFD and would include an FPRP in accordance with ICFD requirements for access. Therefore, the proposed Project is consistent with this objective.

4.13.1.2 EXISTING SETTING

The ICFD has eight stations and six contracting agencies serving all unincorporated areas of Imperial County. The eight stations are staffed by Imperial County Firefighters are on a three-shift system. The eight Imperial County Fire Department stations are located in the communities of Heber, Seeley, Ocotillo, Palo Verde, Niland, Winterhaven and the City of Imperial. The department contracts with Brawley, Calipatria, Holtville, Westmorland, Salton City and Salton Sea Beach (ICFD 2018).

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 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 (ICFD 2018).

The Proposed Project would be primarily served by Imperial County Station #3 located at 1910 N Waterman Avenue in the City of El Centro. The Project may also be served by Station 1 located at 2514 La Brucherie Road in the City of Imperial, and /or Station 2 located at 1078 Dogwood Road in the unincorporated community of Heber. Responders from all three stations would utilize a 1,250 gallon per minute (gpm) Type I fire engine staffed with a minimum of three ICFD personnel (ICFPB 2018).

The ICFD estimates response times to the various portions of the Project site would be approximately as follows: 11 minutes to reach the northern portion; 24 minutes to reach the western portion; 12 minutes to reach the eastern portion (Malek pers. comm. 2018a). The Project would not be directly access from the south off of SR 98. Instead, a driveway off of SR 98 would connect with a frontage road paralleling SR 98 and connecting with emergency access driveways to the southern portion of the Project.

The ICFD is the first responder for emergency services for medical emergencies, including traffic accidents, to the Heber area. ICFD Station 2, also home to the ICFPB would provide fire prevention services (e.g. inspection of water tanks and sprinklers) to the solar field site parcels during construction and the Project operations. (Malek pers. comm. 2018a).

The ICFD has a response time goal of 10 minutes for rural areas such as the Project site. The ICFD has proper equipment to service the Project. During operations, the ICFD is required to send personnel to inspect each CUP Area once per year (Malek pers. comm., 2018a).

4.13.1.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The Project would have a significant impact to fire protection services if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities, need for new or physically altered fire facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.

B. METHODOLOGY

Evaluation of potential impacts to fire service associated with construction, operation and maintenance, and decommissioning the proposed Project was based on consultation with ICFD staff, review of information provided by the Applicant, and the Applicant's proposed Best Management Practices and Design Features (refer to Table 2.0-6 in Chapter 2.0, Project Description). The Applicant also met with the ICFD at which time the ICFD provided access and design requirements. Impacts associated with provision of water pressure to support fire flow are addressed under the discussion of water supply in subsection 4.13.3, below.

C. PROJECT IMPACTS AND MITIGATION MEASURES

Impacts to ICFD Services

Impact 4.13.1 The Proposed Project would develop a solar energy generation and storage facility on agricultural land in Imperial County. The location of the Project and the potential for development of individual CUP Areas over time could result in increased demand on the ICFD services. However, the Project would not cause a need to expand ICFD's public facilities. Therefore, impacts to ICFD services are **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario. Additionally, the proposed Project has been designed to incorporate fire safety features and would contribute to the agency to offset any costs associated with the Project.

FULL BUILD-OUT SCENARIO/ ALL CUP AREAS AND PROJECT COMPONENTS

Construction

Whether constructed over one 18-month period (Full Build-out Scenario) or constructed in phases over up to ten years (Phased CUP Scenario), implementation of the Proposed Project involves construction of up to five solar field site parcels and associated operations support, transmission, and energy storage components on six parcels totaling approximately 762.8 net acres. The ICFD has indicated that it can respond to the site from Station #3 within 11 to 24 minutes depending on which portion of the Project site needs service (Malek pers. comm., 2018a).

Potential fire hazards associated with construction are low and would primarily be associated with sparks from equipment igniting dry vegetation or refueling or maintaining equipment. However, the Applicant also proposes to prepare a Fire Prevention and Response Plan to address safety and response procedures in the event of a fire (see Table 2.0-6 in Chapter 2.0, Project Description) during construction and operations. Further, the solar field site parcels would be cleared of all vegetation and all hazardous materials (including gasoline, diesel fuel and oil) would be required to be properly handled thereby reducing potential for fire in association with use of these materials. Installation of solar panels and equipment are not anticipated to create a fire hazard. Therefore, impacts to ICFD services are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

Several Project components have the potential to be flammable. Transformers, inverters, power lines, and the O&M building(s) have the potential to catch on fire. The PCS structures which house the inverters and transformers will have fire extinguishers and fire alarms which are remotely monitored.

The proposed Project has been designed to incorporate fire prevention features such as utilizing PV modules and ancillary equipment made of fire-resistant material; implementing a vegetation management plan; locating buildings away from combustible items; applying emergency preparedness through fire alarms and a 10,000-gallon water tank for fire protection; and preparing and implementing a FPRP in accordance with ICFD requirements. The plan would identify materials that are potential fire hazards, specify property handling and storage procedures, describe good housekeeping procedures, etc. associated with fire prevention and response. In addition, the ICFD would have access to each CUP Area via ICFD-approved access mechanisms (i.e. Knox Box on gates). These features will minimize risk of fire and the potential need for ICFD services, and thus, represent a limited increase in the need for fire services to each CUP Area.

Each phase of the Project may have its own energy storage component. Energy Storage systems comprised *of* compressed air or pumped storage, lithium (ion, oxygen, polymer, phosphate, sulphur), Nickel Metal Hydride, Nickel Cadmium, Lead Acid, antiperovskites or other batteries include materials that run the risk of overheating and catching fire if equipment is not operated properly. These technologies include materials susceptible to overheating and catching fire if equipment is not operated properly. The Project would be operated in accordance with all applicable regulatory requirements which would mitigate the risk of fires and other hazardous events. Energy Storage Buildings/Containers are typically constructed out of non-combustible metal structures that are located away from other combustible materials. For example, may be stacked in metal racks on a concrete floor in a single building. Alternatively, the batteries may be located in prefabricated metal cargo containers and stacked several feet away from one another on dirt that has been graded and compacted.

The Project's weed management plan will ensure there is minimal or no vegetation surrounding the battery enclosures. The energy storage systems will be operated per the manufacturer's specifications

and the facility and temperatures will be monitored continuously. The energy storage system will have alarms to alert personnel of any variations and increases in temperature that may be problematic. Both the solar fields and energy storage systems are closely monitored on a continual basis to ensure they are operating efficiently. In addition, O&M personnel performs maintenance on a regular basis to ensure the facility is producing at its optimal output. As part of operations protocol, O&M personnel will adhere to the following Handling Precautions:

- Avoid exposing lithium batteries to excessive vibration.
- Do not keep batteries in high or low temperatures.
- Always handle batteries with caution.
- Place batteries in storage after the building reaches compliant temperature levels.
- Do not use damaged batteries.
- In case of contact with fluid do not rub eyes. Immediately flush eyes.
- Wash hands after handling batteries.
- In the event of contact on clothing, change clothing immediately.

The ICFD has indicated that if the Project is constructed to include battery storage, ICFD operational tactics will change from wildland firefighting to structural firefighting (Malek, pers. comm. 2018a). The ICFD will work with the Applicant regarding any other specific design requirements, fees or personnel that may be required to serve the Project (Malek, pers. comm. 2018b). The Applicant also proposes to prepare a Fire Prevention and Response Plan to address safety and response procedures in the event of a fire (see Table 2.0-6 in Chapter 2.0, Project Description).

Overall, the facility will be designed and constructed in accordance with the latest version of the CBC, General Order 95 (GO 95) and the National Electrical Safety Code (NESC) along with other applicable industry standards. These industry standards ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation or use of the facilities and to the general public. The intensity of people on-site during operations would be less than the number during construction and would include two to six full-time personnel per CUP during operations and maintenance crew.

In compliance with applicable regulations, the proposed Project would take precautions for fire prevention including: maintenance of personal protective equipment and emergency equipment (spill containment kits, fire extinguishers, and other firefighting equipment), storage and appropriate labeling of flammable and combustible liquids, and routine weed abatement and landscape maintenance.

Additionally, the ICFD assesses fire impact fees for solar projects to mitigate costs in the event that services are needed. Finally, despite its increase in demand for ICFD's services, the Project will not cause ICFD to expand its public facilities. The Applicant will continue to work with the ICFD regarding the final site layout to ensure that two access points (primary and secondary for emergency access only) are provided for each CUP. Therefore, for construction, operations, and maintenance, the impacts associated with increased demand for ICFD services are anticipated to be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. Decommissioning involves activities similar to construction but would occur over a shorter period of time with less intense volumes of traffic. Moreover, the Project would be decommissioned in accordance with

the CBC, GO 95 and the NESC along with other applicable industry standards. These industry standards ensure adequate service and secure safety to persons engaged in the decommissioning of the facilities.

Further, per ICFD requirements, emergency equipment, such as a 10,000-gallon fire suppression water tank are required to accompany O&M buildings for the life of the Project. As such, fire prevention and emergency preparedness will continue through decommissioning and emergency equipment would remain on-site until demolished.

Finally, despite its increase in demand for ICFD's services, the decommissioning the Project will not cause ICFD to expand its public facilities. Further, following reclamation, impacts to ICFD Services are be anticipated to be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Impacts to ICFD Accessibility

Impact 4.13.2 The proposed Project will be designed to comply with ICFD access requirements. As such, impacts to ICFD accessibility are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction/Operation

Whether constructed over one 18-month period (Full Build-out Scenario) or constructed in phases over up to ten years (Phased CUP Scenario), implementation of the Proposed Project involves construction and operation of up to five solar field site parcels and associated operations support, transmission, and energy storage components on six parcels totaling approximately 762.8 acres net acres.

Multiple County maintained roads provide access throughout the Project Area. Access to the CUP Areas would be primarily via the following paved roads: Drew Road, Kubler Road, Pulliam Road and SR 98. The Project is not proposing to use any unpaved County roads. As identified in Table 2.0-6, Applicant-proposed measures incorporated into the Project include preparation of a Fire Prevention and Response Plan, a Traffic Control Plan for the Imperial County Department of Public Works, and a Traffic Management Plan for Caltrans for SR 98 encroachments prior to construction. The Project does not propose any features that would restrict emergency access, access to nearby properties or the County's transportation system during operations.

Proposed access locations are shown in Figure 4.3-11 in Section 4.3, Transportation and Circulation. The ICFD was contacted for input on the proposed Project to address any potential emergency access requirements. Requirements identified in the July 30, 2018 response letter (ICFPB 2018) and all other applicable fire standards will be incorporated into the final Project design and implementation. In addition, Deputy Chief Robert Malek indicated that the Applicant had met with the ICDF and was working on final site design. Internal circulation will be configured to avoid IID canals while still providing access for fire apparatus throughout the solar field site parcels. ICFD will review Project plans prior to issuance of a Building Permit to ensure that all access requirements are met (Malek pers. comm., 2018b).

The ICFD requires two access points (one primary, one secondary used exclusively for emergency access) at each of the five CUP Areas / solar field site parcels as described below. The ICFD has an off-road fire truck available to drive on dirt roads to access the solar field site parcels if necessary.

CUP#17-0031 / Phase 1 / APN 052-170-056

The primary paved access to CUP Area 17-0031 is a driveway off of SR 98 on the south to one frontage road which connects to one primary and one emergency gate on the south side of the CUP (Refer to Figure 4.3-11 in Section 4.3, Transportation and Circulation). Therefore, impacts regarding ICFD access to CUP Area 17-0031 are considered **less than significant.**

CUP#17-0032 / Phase 2 / APN 052-170-037

The primary paved access to CUP Area 17-0032 is a driveway off of SR 98 on the south to one frontage road which connects to one primary and one emergency gate on the south side of the CUP (Refer to Figure 4.3-11 in Section 4.3, Transportation and Circulation). Therefore, impacts regarding ICFD access to CUP Area 17-0032 are considered **less than significant.**

CUP#17-0033 / Phase 3 / APN 052-170-032

The primary and emergency paved access points to CUP Area 17-0033 would be off of Pulliam Road along the eastern boundary of the CUP Area (Refer to Figure 4.3-11 in Section 4.3, Transportation and Circulation). The emergency access would be just south of Kubler Road (Refer to Figure 4.3-11 in Section 4.3, Transportation and Circulation). Therefore, impacts regarding ICFD access to CUP Area 17-0033 are considered **less than significant.**

CUP#17-0034 / Phase 4 / APN 052-170-031

The primary and emergency paved access point to CUP Area 17-0034 would be off of Kubler Road along the northern boundary of the CUP Area. The emergency access is just east of Drew Road (Refer to Figure 4.3-11 in Section 4.3, Transportation and Circulation). Therefore, impacts regarding ICFD access to CUP Area 17-0034 are considered **less than significant.**

CUP#17-0035 and CUP#18-0001 / Phase 5 / APNs 052-071-039 and 052-170-067

The primary paved access point to CUP Area 17-0035 would be off of Drew Road along the eastern boundary of the CUP Area just north of Mandrapa Road. The emergency access driveway is also off of Drew Road approximately mid-way along the eastern boundary of the CUP Area (Refer to Figure 4.3-11 in Section 4.3, Transportation). Therefore, impacts regarding ICFD access to CUP Area 17-0035 are considered **less than significant.**

The FPRP developed and implemented for the Project would address provision of emergency access, including identifying locations of access, gate and road widths, existing paved roads, secondary unpaved roads, and non-restrictive access to nearby properties. These provisions would apply whether the Project is built out at once over an 18-month period, or under the proposed phased buildout over a ten-year period (i.e. Phased CUP Scenario). Therefore, impacts to ICFD access are considered **less than significant** Project construction and operation under both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the proposed Project would be removed and decommissioned and the CUP Areas would be restored to pre-Project soil conditions. The FPRP will require ICFD-approved access points and required road and gate widths through the life of the Project. As such, the FPRP requirements will remain through the decommissioning process. Thus, during Project

decommissioning, impacts to ICFD accessibility are **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.1.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for fire protection is the service area of the ICFD. For emergency fire response, the proposed Project would be primarily served by Imperial County Fire Station #1.

A cumulative list of proposed, approved and reasonably foreseeable project in the region, is shown in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Projects identified within Imperial County that are in the vicinity of the proposed solar field site parcels include: Centinela Solar, Acorn Solar, Imperial Solar South, and the Mount Signal and Calexico Solar Farms. Each of these projects is a PV solar facility either proposed, currently under construction, or in operation.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to ICFD Fire Protection and Emergency Response

Impact 4.13.3 Development of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the ICFD service area, would increase demand for fire protection and emergency medical response. However, each individual project would be required to incorporate fire safety features, adequate access, and worker safety protocols in compliance with all applicable fire and occupational safety standards and codes. However, implementation of these projects would not cause ICFD to expand its public facilities. Therefore, environmental impacts related to fire protection and emergency response are considered less **than cumulatively considerable** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUPS (CUP#17-0031 THRU CUP#17-0035 AND CUP#18-0001)

Construction, Operation, and Decommissioning

The proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the region, as identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, would increase demand on existing fire facilities, equipment, and staffing in the ICFD service area. A number of projects are within the vicinity of the Project site. However, neither the proposed Project nor the other projects identified as part of cumulative conditions would result in the development of, or need for, additional residential development, structures, or population requiring ICFD fire protection and emergency response. The projects will not cause ICFD to expand its public facilities.

All new development in Imperial County is subject to fire safety standards, including state and local regulations. Furthermore, impacts to fire protection are mitigated on a project-by-project basis through review of individual projects by the ICFD to ensure that all fire safety requirements, including adequate access, are satisfied. Thus, the Project's contribution (whether implemented as the Full Build-out Scenario

or the Phased CUP Scenario), to cumulative impacts to fire protection and emergency medical response would be **less than cumulatively considerable**. Likewise, because individual projects are required to meet federal, state and local requirements, as applicable, cumulative project impacts to fire protection and emergency response would be **less than cumulatively considerable** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.2 LAW ENFORCEMENT

4.13.2.1 REGULATORY FRAMEWORK

A. LOCAL

Imperial County Year 2006 Development Impact Fees Ordinance No. 1418

The Year 2006 Development Impact Fees Ordinance was enacted to address policies regarding New Development in both the Countywide and Unincorporated Areas of Imperial County. The policies require New Developments to supplement the fair share of the costs of public facilities, equipment and services that individual development necessitates, including public services such as those provided by the Imperial County Sheriff's Office (ICSO). The ICSO provides police services to the unincorporated areas, while also operating the county jail and coroner's office in both unincorporated and incorporated areas of the County. All Development Impact Fees are addressed based on the demand for services.

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, policies and programs regarding public safety and provision of emergency access. The Circulation and Scenic Highway Element of the General Plan includes a goal and objective regarding emergency access applicable to the proposed Project. **Table 4.13-2** provides a consistency analysis of the applicable Imperial County General Plan goal and objective as they relate to the proposed Project. 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.

TABLE 4.13-2
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS – LAW ENFORCEMENT

General Plan Goal and Objective	Consistent with General Plan?	Analysis
CIRCULATION AND SCENIC HIGHWAY ELEMENT		
Safe, Convenient, and Efficient Transportation System		
Goal 1 The County will provide and require an integrated transportation system for the safe and efficient movement of people and goods within and through the County of Imperial with minimum disruption to the environment.	Yes	Various County maintained roads provide access throughout the Project Area. Access to the solar field site parcels would be primarily via the following paved roads: Drew Road, Kubler Road, Pulliam Road, and SR 98. Additionally, the Project may use County maintained unpaved roads (such as Mandrapa Road) when access from existing paved roads or internal Project area roads is unavailable. The Project does not propose any features which would restrict access to nearby properties or County transportation systems. Therefore, the Proposed Project is consistent with this Goal for both the Full Build-out Scenario and the Phased CUP Scenario. Refer to Section 4.3, Transportation and Circulation, for a full discussion of transportation.
Objective 1.17 Assure that road systems are adequate to accommodate emergency situations and evacuation plans.	Yes	The proposed Project includes primary and emergency access points for each CUP. Security gates will be located at each CUP Area to control entry. All driveways leading to the O&M building(s) will be surfaced with a minimum of three (3) inches of asphaltic concrete paving or higher quality material. Further, the Project will be designed in accordance with the FPRP which will require adequate access and road systems designed and implemented in compliance with applicable State and local emergency access requirements. Therefore, the proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

4.13.2.2 EXISTING SETTING

The ICSO is responsible for providing law enforcement services to all unincorporated areas for the County of Imperial and is the primary law enforcement agency for such service. The Project site falls within the area of the ICSO main office, commonly referred to as the El Centro Station, located at 328

Applestill Road in El Centro. This station is approximately seven miles northeast of the Project site, and approximately 10 miles in driving distance (ICSO 2018).

The ICSO El Centro Station houses various units and personnel that serve a variety of functions. The patrol function primarily consists of a Sergeant and two deputies per shift, two shifts per day. This station is responsible for patrol duties covering the geographical area located from Keystone Road south to the US/Mexico International Border, and from the San Diego/Imperial County line east to the Brock Research Center. This area is generally divided between the two shift deputies to an east and west beat. The Project Area is encompassed within the west beat geographical area, which consists of the area from Dogwood Road west to the San Diego/Imperial County line (ICSO 2018).

4.13.2.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The Proposed Project would have a significant impact on law enforcement services if it would:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered law enforcement facilities, or the need for new or physically altered law enforcement, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for law enforcement.

B. METHODOLOGY

Evaluation of potential impacts to law enforcement service impacts associated with construction, operation and maintenance, and decommissioning of the Proposed Project was based on review of the solar field site parcels and surrounding area and consultation with Chief Deputy Thomas Garcia of the Imperial County Sheriff's Office.

C. PROJECT IMPACTS AND MITIGATION MEASURES

Impacts to ICSO Services

Impact 4.13.4 Implementation of the Project could negatively affect the ICSO's response times and ability to carry out patrol duties. However, implementation of the proposed Project would result in the need to expand ICSO's public facilities. Therefore, potential environmental impacts to law enforcement services are considered **less than significant** for both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction/Decommissioning

The Proposed Project would introduce a solar energy generation and storage facility to an area previously used for agricultural production. Whether constructed over one 18-month period (Full Build-out Scenario) or constructed in phases over up to ten years (Phased CUP Scenario), Project construction and decommissioning would increase the intensity of workers and activity present within the Project site and surrounding vicinity. During construction, access to each CUP Area would be controlled through security fencing and gates that will be installed at the roads entering each CUP Area. Private security would also be contracted to patrol the Project site.

The eastern boundary of the Project area is approximately seven miles, or ten miles driving, from the ICSO El Centro Main Station. Despite the addition of private security, the added intensity of workers on-site may require the Sheriff's Main Office to respond to service calls to the Project site during construction and decommissioning and impact the ability of the ICSO's Main Station to provide adequate law enforcement services to the current service areas. However, construction and decommissioning activities would be temporary in nature. Further, the proposed Project would not cause the ICSO to expand its public facilities. Therefore, impacts to law enforcement services are anticipated to be **less than significant** during Project construction and decommissioning under both Full Build-out Scenario and as proposed under the Phased CUP Scenario.

Operation

According to the ICSO, although solar projects in general would not warrant additional staffing in terms of the daily patrol, they do create increased calls for service directly and indirectly. Direct calls for service include thefts, vandalism, reports of suspicious subjects or activity and other incidents. Indirectly, the increased activity and traffic in the area can increase calls for services from issues such as traffic accidents and vehicle code violations (ICSO 2018).

The ICSO notes that although proposed Project alone does not warrant additional staff, the increase of similar projects throughout the area increases use of the ICSO's minimal resources. As previously described, the Project Area is serviced by one patrol deputy covering a vast area. Anytime this deputy is actively working calls for service it will delay response time to other calls, as well as minimize important proactive patrol activity to deter crime. Further, should the west service area deputy be tied up for any length of time on a particular call, the east service area deputy would be required to respond to the west beat to assist, and therefore, service in the east service area would be severely reduced. The ICSO also notes a particular point of concern is night operations, which are conducted with the same staffing levels as daytime operations. Should an incident occur requiring a search during night hours, searching an area as large as the Project site can be very difficult and become an issue in respect to time required, limited resources and officer safety (ICSO 2018).

Therefore, despite the Project's security features and its close proximity to the ICSO's Main Station, the Project would take from the current ability of the staff to respond to the current level of service calls and complete patrol duties originating from the ICSO Main Station. However, implementation of the proposed Project would not cause the ICSO to expand its public facilities. Therefore, environmental impacts to law enforcement facilities are considered **less than significant** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.13.2.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for law enforcement is the service area of the ICSO which includes all of unincorporated Imperial County. Under cumulative conditions, the ICSO would continue to provide law enforcement services to Imperial County, as well as the proposed, approved and reasonably foreseeable projects in the region identified in Table 3.0-1, in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. This development would increase the number and acreage of renewable energy projects requiring law enforcement.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to ICSO Services

Impact 4.13.5 Development of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in Imperial County would result in an increased cumulative demand for law enforcement. However, cumulative projects would not cause the ICSO to expand its public facilities. Therefore, impacts to law enforcement services are **less than cumulatively considerable** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction, Operation and Decommissioning/Reclamation

Increased development in the County, including cumulative projects identified in Table 3.0-1 within Imperial County, would increase demand for law enforcement services under cumulative conditions. The ICSO has indicated that law enforcement will experience a cumulatively considerable impact due to the potential for the Project, along with other cumulative projects in the ICSO service area, to result in increased service calls in an already large service area (ICSO 2018). Specifically, responding to increased service calls to the Project Area would strain current service levels of the ICSO's Main Station in El Centro. However, the increase in calls would not cause the ICSO to expand its public facilities. Therefore, for the purpose of analyzing environmental impacts under CEQA, the Proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in Imperial County, would result in a **less than cumulatively considerable impact** to law enforcement services under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario**.**

Mitigation Measures

None required

Significance After Mitigation

Not applicable.

4.13.3 WATER SERVICE

4.13.3.1 REGULATORY FRAMEWORK

A. STATE

Urban Water Management Planning Act - Assembly Bill (AB) 797

The Urban Water Management Planning Act was established by Assembly Bill 797 (AB 797) on September 21, 1983. This law evidences recognition by state legislators of water as a limited resource. AB 797 is also a declaration that efficient water use and conservation should be actively pursued throughout the state. AB 797 requires water suppliers providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AF/Y) of water, to prepare and adopt a specific plan every five years. The purpose of the plan is to define the supplier's current and future water use, sources of supply and supply reliability, and existing conservation measures.

Senate Bill (SB) 610 and SB 221

SB 610 (Chapter 643, Statues of 2001) and SB 221 (Chapter 642, Statues of 2001) amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain

land use decisions made by cities and counties. SB 610 works in conjunction with SB 221 to promote more collaborative planning between local water suppliers and cities and counties. These statutes require submission of detailed water availability information to be provided to the city and county decision-makers prior to approval of specified large development projects. Both statutes also require this detailed information to be included as part of the administrative record to substantiate an approval action by the city or county on such projects. Both SB 610 and SB 221 recognize local control and decision-making regarding the availability of water for projects and the approval of projects. Drew Solar qualifies as a "project" under Water Code section 10912 because it is a proposed industrial use occupying more than forty (40) acres of land (Fuscoe 2018b).

B. REGIONAL

IID Interim Water Supply Policy for Non-Agricultural Projects

The Imperial Irrigation District (IID) has adopted an Interim Water Supply Policy for Non-Agricultural Projects (IWSP), from which water supplies can be contracted to serve new developments within IID's water service area. For applications processed under the IWSP, applicants are required to pay a processing fee and, after IID board approval of the corresponding agreement, are required to pay a reservation fee(s) and annual water supply development fees. The IWSP sets aside 25,000 acre-feet (AF) of IID's Colorado River water supply to serve new non-agricultural projects. As of June 2017, a balance of 23,800 AF remains available under the IWSP for new non-agricultural projects ensuring reasonably sufficient supplies for such water users. The Project site lies within IID's Imperial Unit and as such is eligible to receive water service (Fuscoe 2018b).

C. LOCAL

Imperial County General Plan

The Imperial County General Plan provides goals, objectives, policies and programs regarding the preservation and use of water. **Table 4.13-3** 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 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.

TABLE 4.13-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS – WATER SERVICE

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
CONSERVATION AND OPEN SPACE ELEMENT		
Conservation of Water Resources		
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Yes	The Project proposes implementation of a solar energy generation and storage facility on land currently in active agricultural use. As compared to the water intensive needs for crop growth, the Project will only require limited water resources for panel washing as needed, dust control as needed, fire prevention,

TABLE 4.13-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS – WATER SERVICE

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
Goal 6: The County will conserve, protect, and enhance water resources in the County.	Yes	and for water and wastewater services at Project O&M Buildings for both the Full Build-out Scenario and the Phased CUP Scenario. Refer to Chapter 4.11, Hydrology and Water Quality, for discussion regarding protection of water quality.
Objective 6.10: Encourage water conservation and efficient water use among municipal and industrial water users, as well as reclamation and reuse of wastewater.	Yes	Refer to analysis under Goal 6.
RENEWABLE ENERGY AND TRANSMISSION ELEMENT		
Efficient Water Use		
Goal 1 Support the safe and orderly development of renewable energy while providing for the protection of environmental resources.	Yes	Refer to analysis under Objective 1.6, below.

TABLE 4.13-3
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS – WATER SERVICE

General Plan Goals and Objectives	Consistent with General Plan?	Analysis
Objective 1.6 Encourage the efficient use of water resources required in the operation of renewable energy generation facilities.	Yes	The proposed Project is a renewable energy generation facility proposed for development at a location currently under water-intensive agricultural production. The Project would use water from the IID canals during operation. According to the Water Supply Assessment (WSA) prepared for the Project, operation of the Project would require 60 AF/Y (2,340 AF amortized over a conservative 39-year operational lifetime of the Project). The WSA indicates that sufficient water is available, based on the fact Project water is lower than current agricultural demands and the availability of IWSP water set aside for new non-agricultural projects (Fuscoe 2018b, p. 42). The Project does not propose wasteful or inefficient use of water during construction, operation and maintenance, or decommissioning/ reclamation activities. Therefore, the Proposed Project is consistent with this objective for both the Full Build-out Scenario and the Phased CUP Scenario.

4.13.3.2 EXISTING SETTING

The Imperial Valley depends on the Colorado River for its water, which IID transports, untreated, to delivery gates for agricultural, municipal, industrial (including geothermal and solar energy), environmental (managed marsh), recreational (lakes), and other non-agricultural uses. IID supplies the cities, communities, institutions and Southern California Water Company with untreated water that they treat to meet state and federal drinking water guidelines before distribution to their customers (Fuscoe 2018b, p. 14).

Industries outside the municipal areas treat the water to required standards of their industry. The IID Water Department tracks nearly 4,000 raw water service accounts required by the California Department of Public Health (CDPH) to have alternate drinking water service (Fuscoe 2018b, p. 14). The District maintains a small-acreage pipeline and drinking water database and provides an annual compliance update to CDPH (Fuscoe 2018b, p. 39).

The Project site is located in Imperial Valley, which is geographically synonymous with IID's Imperial Unit. The area served by IID is located in Imperial Valley, which is generally geographically synonymous with

IID's Imperial Unit, lying south of the Salton Sea, north of the United States /Mexico International Border 1and generally in the 658,942 acre area between IID's Westside Main and East Highline canals. **Figure 4.13-1** provides a map of the IID Imperial Unit boundary, as well as cities, communities and main canals.

IID's IWSP sets aside 25,000 acre-feet (AF) of IID's Colorado River water supply to serve new non-agricultural projects. Because the Project lies within IID's Imperial Unit it is eligible to receive water service (Fuscoe 2018b). As of June 2017, a balance of 23,800 AF remained available under the IWSP for new non-agricultural projects ensuring reasonably sufficient supplies for such water users (Fuscoe 2018b, p. 5).

The proposed Project is located on agricultural land owned by the IID. Water is supplied to the Project site via IID's via existing untreated irrigation canals. Historical water deliveries to the Project site for agricultural use averaged approximately 4,618 AFY between 2003 and 2017 (Fuscoe 2018b, p. 6).[2] **Table 4.13-4** identifies the IID source of historic agricultural water supplied to the Project by APN and associated CUP Area.

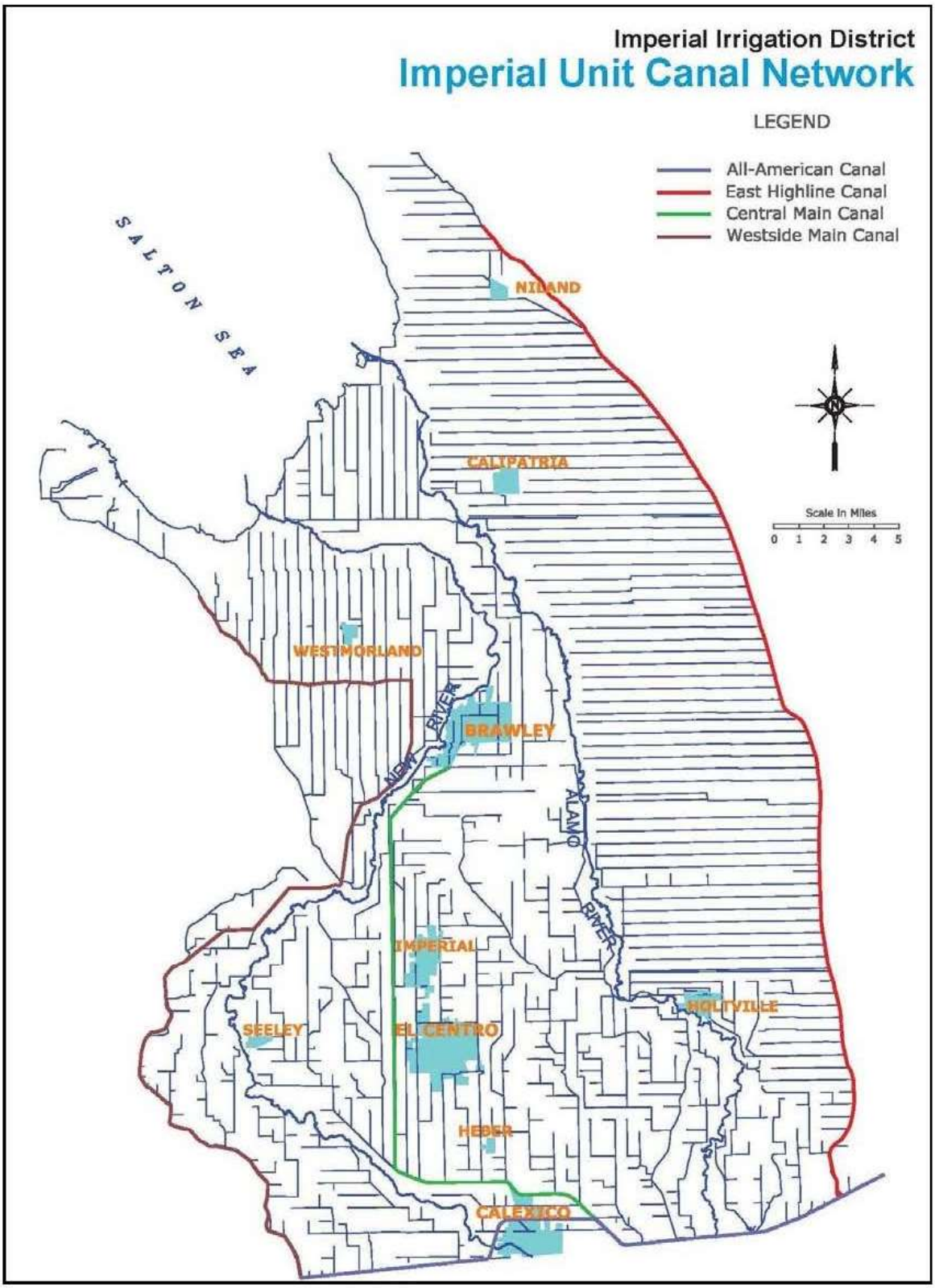
TABLE 4.13-4
HISTORIC WATER DELIVERY DATA SOURCE BY PROJECT APN / CUP AREA

APN	CUP Area	Gross Acreage	Net Acreage	Water Deliver Canal / Gate
052-170-039	17-0035/18-0001	91.73	69.8	Wormwood 14
052-170-067	17-0035/18-0001	72.04	67.2	Wormwood 13
052-170-031	17-0034	168.61	157.1	Woodbine 57 & Wormwood 12
052-170-056	17-0031	178.07	152.2	Wormwood 11 & 11a
052-170-032	17-0033	176.24	158.6	Woodbine 43a & Woodbine 44
052-170-037	17-0032	168.31	157.9	Woodbine 41 & 42
Total		**855.00**	**762.8**	

Source: Fuscoe 2018b, p. 6.

[1] IID Annual Inventory of Areas Receiving Water Years 2016, 2015, 2014 (Fuscoe 2018b).

[2] Historic water delivery data to Project Site was provided by IID in February 2018 (Fuscoe 2018b).



Source: Fuscoe 2018b.

FIGURE 4.13-1
IMPERIAL IRRIGATION DISTRICT – IMPERIAL UNIT CANAL NETWORK

4.13.3.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Proposed Project would have a significant impact with regard to water service if it would:

a) Require or result in the relocation or construction of new or expanded water facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

B. METHODOLOGY

Evaluation of potential water supply and service impacts of the proposed Project were based on correspondence with the Applicant, and the Drew Solar Water Supply Assessment (Fuscoe 2018b). The Water Supply Assessment is provided as **Appendix L** on the attached CD of Technical Appendices to this EIR.

C. PROJECT IMPACTS AND MITIGATION MEASURES

Construction of New Water Facilities

Impact 4.13.6 The Project may install on-site water treatment facilities within each CUP that has an O&M Building Complex. The facilities would be constructed within the footprint of the CUP and would not disturb off-site lands. Therefore, impacts associated with provision of water treatment facilities are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

During construction, on-site water treatment facilities may also be constructed within each CUP where an O&M Building Complex is constructed (refer to Figure 2.0-11 in Chapter 2.0, Project Description to see the layout of an O&M Complex). Each CUP/ Project phase may have its own O&M Building Complex, and Phase 5 may have two O&M Building Complexes. Bottled water will be trucked to the site for drinking water. Construction related to on-site water treatment facilities would be limited to CUPs where they are to be installed, with no connection to existing public systems. Therefore, impacts resulting from potential construction of new water treatment facilities are considered **less significant** under both the Full Build-out Scenario and the proposed Phased CUP Scenario.

Operation

An on-site water treatment facility may be constructed at each CUP with an O&M Building Complex. Each phase may have its own O&M Building Complex, and Phase 5 may have two O&M Building Complexes. The on-site water treatment facilities would provide the appropriate panel wash water or potable water requirements to provide water during Project operation. The Imperial County Building Code requires potable water to be connected to all plumbing fixtures. However, IID does not allow its water to be consumed by humans. As such, while potable water will be connected to plumbing fixtures, bottled water will be provided for drinking water.

The Project will also collect wastewater from sanitary facilities such as sinks and toilets in the O&M building(s). This waste stream will be sent to an on-site sanitary waste septic system and leach field to be installed in compliance with standards established by Imperial County Environmental Health Services. Alternatively, the Project may be designed to direct these waste streams to an underground tank for storage until it is pumped out, on a periodic or as-needed basis, and transported for disposal at a licensed waste treatment facility. Impacts relating to wastewater systems are addressed below under the discussion of Impact 4.13.9.

The proposed water treatment system(s) would be private and operated and maintained within the boundaries of each CUP Area (i.e. within the disturbed area of the Project site). No off-site expansion of a public water treatment facility would occur in order to provide water treatment during Project operation under the Full Build-out Scenario or the Phased CUP Scenario. Instead, the on-site private water treatment system(s) would comply with applicable water quality standards for treating raw water. Therefore, impacts resulting from operation of proposed water treatment facilities are considered **less significant** under both the Full Build-out Scenario and proposed Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project, including on-site water treatment system facilities would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. With removal of the O&M Building(s), on-site water treatment would no longer be necessary. Therefore, **no impact** would occur with regard to water treatment under the Full Build-out Scenario or the proposed Phased CUP Scenario during Project decommissioning. Once the site is reclaimed water treatment would not be required.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Water Supply Sufficiency

Impact 4.13.7 The Project proposes to obtain water from the IID canal network for construction, operation and maintenance, and decommissioning/reclamation activities. Project demands for water would be lower than current agricultural water supply requirements. The IID Canal system and water entitlements are adequate to meet the proposed water demands and the Project would not cause a need to expand water entitlements. Therefore, impacts to water supply are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

SB 610 requires an analysis of a normal, single dry, and multiple dry water years to show that adequate water is available for the proposed Project in various climate scenarios. Water availability for the proposed Project in a normal year is no different from water availability during a single-dry and multiple-dry year scenarios. This is due to the small effect rainfall has on water supply in IID's arid environment along with IID's strong entitlements to the Colorado River water supply. Local rainfall does have a slight impact on how much water is consumed (i.e. if rain falls on agricultural lands, those lands will not demand as much irrigation), but does not impact the definition of a normal year, a single-dry year or a multiple-dry year scenario in this region for this supplier (Fuscoe 2018b, p. 33).

IID Water Supply – Normal Year

IID is entitled to annual consumptive use of 3.1 million acre-feet (MAF) of Colorado River less its Quantification Settlement Agreement (QSA) transfer obligations. Imperial Dam located north of Yuma, Arizona, serves as a diversion structure for water deliveries throughout southeastern California, Arizona and Mexico. Water is transported to the IID water service area through the All-American Canal for use throughout the Imperial Valley.

IID historical and forecast net consumptive use volumes at Imperial Dam from CRWDA Exhibit B are shown in **Table 4.13-5**. Volumes for years 2003-2015 are adjusted for United States Bureau of Reclamation Decree Accounting historical records. Volumes for years 2016-2077 are from the CRWDA Exhibit B modified to reflect changes to the 1988 IID/ Metropolitan Water District of Southern California (MWD) Transfer the 2014 Letter of Agreement[3] changes to the 1988 IID/MWD Water Conservation Agreement.

Due to limits on annual consumptive use of Colorado River water under the QSA/Transfer Agreements, IID's water supply during a normal year is best represented by the CRWDA Exhibit B Net Available for Consumptive Use (**Table 4.13-5**, Column 11). That annual volume is the IID Priority 3(a) Quantified Amount of 3.1 million acre-feet (MAF) (**Table 4.13-5**, Column 2) less the IID transfer program reductions for each year (**Table 4.13-5**, Columns 3-9). These volumes represent the supply available to IID at Imperial Dam.

The CRWDA Exhibit B Net Available for Consumptive Use volumes less system operation demand represent the amount of water available for delivery by IID Water Department to its customers each year. In a normal year, perhaps 150,000 AF of effective rainfall would fall in the IID water service area. However, rainfall is not evenly distributed throughout the IID water service area and is not taken into account by IID in the submittal of its Estimate of Diversion (annual water order) to the USBR (Fuscoe 2018b, p. 33).

IID Water Supply – Single Dry and Multiple Dry Years

When drought conditions exist within the IID water service area, as has been the case for the past decade or so, the water supply available to meet agricultural and non-agricultural water demands remains the same as normal year water supply because IID continues to rely on its entitlement for Colorado River water. Due to the priority of their water rights and other agreements, drought affecting Colorado River water supplies causes shortages for Arizona, Nevada and Mexico, not California or IID. Accordingly, the Net Available for Consumptive Use volumes in Table 4.13-5, Column 11 represent the water supply at Imperial Dam available for diversion by IID in a single-dry year and multiple-dry year scenarios (Fuscoe 2018b, p. 35).

Under CRWDA Inadvertent Overrun Payback Policy (IOPP), IID has some flexibility to manage its water use. When the water level in Lake Mead is above 1,125 feet, an overrun of its USBR approved annual water order is permissible and IID has up to three years to pay water use above the annual water order. When Lake Mead's water level is at or below 1,125 feet or less on January 1 in the calendar year after the overrun is reported in the USBR Lower Colorado Region Colorado River Accounting and Water Use Report for Arizona, California, and Nevada (Decree Accounting Report), the IOPP prohibits additional overruns and requires that outstanding overruns are to be paid back in the subsequent calendar year rather than in three years as allowed under normal conditions; that is, in in the calendar year following publication of the overrun in the Decree Accounting report (Fuscoe 2018b, p. 35).

3 Letter Agreement for Substitution and Conservation Modifications to the IID/MWD Water Conservation Agreement - December 18, 2014 http://www.iid.com/home/showdocument?id=9951

TABLE 4.13-5
IID HISTORIC AND FORECAST NET CONSUMPTIVE USE FOR NORMAL YEAR, SINGLE-DRY YEAR AND MULTIPLE-DRY YEAR WATER SUPPLY, 2003-2037, ET SEQ.

IID Quantification and Transfers, Volumes in KAF at Imperial Dam [1]										
Col 1	2	3	4	5	6	7	8	9	10	11
Year	IID Priority 3(a)									
	IID 3(a) Quantified Amount	IID Reductions							IID Total Reduction (Σ Cols 3-9)[5]	IID Net Available for Consumptive Use (Col 2 - 10)
		1988 MWD Transfer[2]	SDCWA Transfer	AAC Lining	Salton Sea Mitigation SDCWA Transfer[3]	Intra-Priority[3] CVWD Transfer	MWD Transfer w\ Salton Sea Restoration[4]	Misc. PPRs		
2003	3,100	105.1	10.0	0.0	0.0	0.0	0.0	11.5	126.6	2978.2
2004	3,100	101.9	20.0	0.0	15.0	0.0	0.0	11.5	148.4	2743.9
2005	3,100	101.9	30.0	0.0	15.0	0.0	0.0	11.5	158.4	2756.8
2006	3,100	101.2	40.0	0.0	20.0	0.0	0.0	11.5	172.7	2909.7
2007	3,100	105.0	50.0	0.0	25.0	0.0	0.0	11.5	191.5	2872.8
2008	3,100	105.0	50.0	8.9	26.0	4.0	0.0	11.5	205.4	2825.1
2009	3,100	105.0	60.0	65.5	30.2	8.0	0.0	11.5	280.2	2566.7
2010	3,100	105.0	70.0	67.7	33.7	12.0	0.0	11.5	299.9	2545.6
2011	3,100	103.9	63.3	67.7	0.0	16.0	0.0	11.5	246.4	2915.8
2012	3,100	104.1	106.7	67.7	15.2	21.0	0.0	11.5	326.2	2,903.2
2013	3,100	105.0	100.0	67.7	71.4	26.0	0.0	11.5	381.6	2,554.8
2014	3,100	104.1	100.0	67.7	89.2	31.0	0.0	11.5	403.5	2,533.4
2015	3,100	107.82	100.0	67.7	153.3	36.0	0.0	11.5	476.32	2,480.9
2016	3,100	105	100	67.7	130	41	100	11.5	555.2	2,544.8
2017	3,100	105	100	67.7	150	45	91	11.5	570.2	2,529.8
2018	3,100	105	130	67.7	0	63	0	11.5	377.2	2,722.8
2019	3,100	105	160	67.7	0	68	0	11.5	412.2	2,687.8
2020	3,100	105	193	67.7	0	73	0	11.5	450.2	2,649.8
2021	3,100	105	205	67.7	0	78	0	11.5	467.2	2,632.8
2022	3,100	105	203	67.7	0	83	0	11.5	470.2	2,629.8
2023	3,100	105	200	67.7	0	88	0	11.5	472.2	2,627.8
2024	3,100	105	200	67.7	0	93	0	11.5	477.2	2,622.8
2025	3,100	105	200	67.7	0	98	0	11.5	482.2	2,617.8
2026	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
2027	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
2028	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
'29-37	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
'38-47 [6]	3,100	105	200	67.7	0	103	0	11.5	487.2	2,612.8
'48-77 [7]	3,100	105	200	67.7	0	50 [8]	0	11.5	434.2	2,665.8

Source: Fusco 2018b, p. 24.

Note: Shaded columns represent volumes of water that may vary.

1. 2003 through 2015, volumes are adjusted for actual USBR Decree Accounting values; IID Total Reduction and Net Available for Consumptive Use may not equal Col 2 minus Col 10, if IID use was not included in Exhibit B.
2. 2014 Letter of Agreement provides that, effective January 2016 total amount of conserved water available is 105 KAFY; 2015 total amount of conserved water that will be available is 107,820 AF.
3. Salton Sea Mitigation volumes may vary based on conservation volumes and method of conservation.
4. This transfer is not likely given lack of progress on Salton Sea restoration as of 2016.
5. Reductions include conservation for 1988 IID/MWD Transfer, IID/SDCWA Transfer, AAC Lining; SDCWA Transfer Mitigation, MWD Transfer w/Salton Sea Restoration (if any), and Misc. PPRs. Amounts are independent of increases and reductions as allowed under the IOPP.
6. Assumes SDCWA does not elect termination in year 35.
7. Assumes SDCWA and IID mutually consent to renewal term of 30 years.
8. Modified from 100 KAFY in CRWDA Exhibit B; stating in 2018 MWD will provide CVWD 50 KAFY of the 100 KAFY.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

During construction of either the Full Build-out Scenario or the Phased CUP Scenario, water would be required for a variety of activities, including dust suppression, earth compaction, the creation of engineered fill, and concrete preparation. The Project proposes obtaining required water from the adjacent IID canal system.

Due to the proposed Project phasing under the development agreement, it is unknown which year within the first 10 years of the 40-year CUPs the Project will commence construction. It is possible that construction will commence in 2019 at one time, or over five phases over a 10-year period. Regardless of construction phasing, total construction and decommissioning water demands are anticipated to be 1,200 AF each. In order to provide a conservative assessment, the WSA assumed that all the CUPs will commence construction in 2019 at once to allow for the longest fully operational lifetime of the Project (39 years) (Fuscoe 2018b, p. 41). Decommissioning of the Project would occur immediately after the 40-year CUP term in year 41 and is assumed to take one year. Therefore, an amortized water demand of 116 AFY level for 41 years is assumed. This would result in a total water demand of 4,740 AF as shown in **Table 4.13-6** below (Fuscoe 2018b, p. 39).

TABLE 4.13-6
AMORTIZED PROJECT WATER DEMAND 2019-2060

Project Phase	Water Demand
Construction Water Usage – Year 1 (2019)	1,200 AF
Operational Water Usage – 60 AFY over 39 years (2020 – 2059)	2,340 AF
Decommissioning Water Usage – Year 41 (2060)	1,200 AF
Total Project Water Demands over 41 years	4,740 AF
Amortized Actual Water Demand – 4,740 AF over 41 years	116 AFY

Source: Fuscoe 2018b, p. 39.

Although this methodology over-estimates the Project's water demand, it allows the Imperial County Board of Supervisors to assess the water supply impacts of full construction of the Project at any time within the first 10 years of the CUP assumed approval date (2019) (Fuscoe 2018b, p. 39).

As of June 2017, IID's IWSP had a remaining balance of water equal to 23,800 AF available for new non-agricultural projects such as the Proposed Project (Fuscoe 2018b, p. 39). The estimated 1,200 AF (120 AF/Y divided over a ten-year construction period) required for Project construction is well below the existing and historic water-intensive agricultural uses on the solar field site parcels (approximately 4,618 AF/Y average between 2003 and 2017).[4] Therefore, impacts to water supply during Project construction, under both the Full Build-out Scenario and Phased CUP Scenario, are considered **less than significant.**

Operation

The Project plans to secure water rights from the IID under the IID's Interim Water Supply Policy for Non-Agricultural Projects via a long-term Water Supply Agreement with a service pipe connection to an adjacent IID raw water canal. In the event this isn't feasible, the Project will truck water to the Project site for operational purposes or procure water from IID's applicable water policy/program at that time. As noted above, the IWSP sets aside 25,000 acre-feet (AF) of IID's Colorado River water supply to serve new non-agricultural projects. To date, a balance of 23,800 AF remains available under the IWSP for new non-

[4] Historic water delivery data to Project site was provided by IID in February 2018.

agricultural projects ensuring reasonably sufficient supplies for such water users (Fuscoe 2018b, p. 5). The Project is within IID's Imperial Unit and as such is eligible to receive water service (Fuscoe 2018b, p. 39).

The water for Project operation will be or domestic use and fire protection in addition to other uses. Water may also be used to wash the solar modules if determined to be beneficial to the Project. As shown below in **Table 4.13-7**, the Water Supply Assessment prepared for the Project anticipates a requirement of approximately 60 AF/Y during Project operations (Fuscoe 2018, p. 41). The operational water demand will be combined with water demands over construction and decommissioning phases of the Project to calculate an amortized water demand over the lifetime of the Project.

TABLE 4.13-7
OPERATION AND MAINTENANCE - ANNUAL OPERATIONAL WATER USAGE ESTIMATES

Source of Water Demand	Water Quantity Required (AF/Y)
Fire Protection	1.0
Sanitary Water	5.0
Panel Washing	14.0
Dust Suppression	35.0
Potable Water	5.0
Total	**60.0**

Source: Fuscoe 2018b, p. 41. AF/Y = Acre feet per year

Under the Full Build-out Scenario, operation and maintenance water use would not result in a significant decrease in water supply. The WSA estimates project operations and maintenance would require 60 AF/Y needed for Project operations (**Table 4.13-7**) and maintenance (2,340 AF total amortized over a 39-year operational period) (**Table 4.13-6**) needed for Project operations and maintenance is much less than the needs of existing and historic agricultural uses of an average of 4,618 AF/Y (average between 2003 and 2017).[3] The estimated water demand inclusive of Project construction, operation and maintenance, and decommissioning is estimated at 116 AF/Y (**Table 4.13-6**), representing a 97 percent reduction from the water delivered for agricultural uses on the proposed solar field site parcels (Fuscoe 2018b, p. 42). Therefore, impacts to water supply during operations and maintenance, under both the Full Build-out Scenario and Phased CUP Scenario, are considered **less than significant**.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. Decommissioning activities are similar to construction activities and would occur immediately after the 40-year CUP term in year 41. Decommissioning is assumed to take one year. As such, demand for water supply during decommissioning is anticipated to be the similar to demand experienced during construction (1,200 AF) (**Table 4.13-6**). Therefore, impacts associated with water supply during decommissioning are anticipated to be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario. Reclamation water demands are estimated to be similar to existing and historic agricultural uses (i.e. average of 4,618 AF/Y).

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.3.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting and geographic scope for water service is the IID water service area, which includes nine cities and approximately 500,000 acres of agricultural, municipal and industrial use (IID 2018).

Other proposed, approved and reasonably foreseeable projects, identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used, are located within the IID Canal system and seek water supply on an individual project basis.

As discussed in the analysis under Impact 4.13.6, above, the proposed Project would construct, operate and decommission an on-site, private water treatment system for all CUP Areas where an O&M Building is included. As such, the proposed Project would not impact a public water treatment system and therefore would not create a cumulatively considerable impact to a public water treatment system. Likewise, the proposed Project would not use groundwater as a water supply source or impact groundwater recharge. Therefore, the proposed Project would not create a cumulatively considerable impact to groundwater.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Water Supply Impacts

Impact 4.13.8 Development of the proposed Project would require use of surface water from the IID canal system. Requests for water supply are approved by the IID on a project-by-project basis. The proposed Project would require less water than current agricultural uses on the solar field site parcels. Therefore, the Project's contribution to cumulative water supply impacts is considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction, Operation, and Decommissioning/Reclamation

As discussed under Impact 4.13.6, the Project would need approximately 1,200 AF of water for construction of the Full Build-out Scenario, and 60 AF/Y for the Full Build-out Scenario during operation. At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. Project decommissioning activities will also require approximately 1,200 AF of water. When returned to agricultural use, the water rights will be given back to the landowners of each parcel through a trust maintained with the IID.

Water for the Project construction and decommissioning would be obtained from the IID through a temporary water use permit that grants water usage on a project-by-project basis, subject to analysis of availability. Demand for water service for existing and historical agricultural uses is estimated at 97 percent greater than would be required for the Proposed Project (Fuscoe 2018b, p. 42). As such, impacts related to water supply for the proposed Project site are not expected to combine with similar impacts of approved, proposed, and reasonably foreseeable projects identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis and Assumptions Used. Many of the other projects on the cumulative project list are solar development projects that will also use less water than their current use which is typically active agriculture. Therefore, under both the Full Build-out Scenario and the Phased CUP Scenario, the Project, combined with other proposed, approved and reasonably foreseeable projects in the regional would have a **less than cumulatively considerable impact** on water entitlements and

would not require new water supply entitlements to accommodate construction, operation or decommissioning. Likewise, the Project's contribution to cumulative impacts to water supply would be **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario during project construction, operation and decommissioning. As each CUP is reclaimed, water rights will be given back to the landowners of each parcel through a trust maintained with the IID.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.4 WASTEWATER SERVICE

4.13.4.1 REGULATORY FRAMEWORK

A. FEDERAL

Clean Water Act

The Clean Water Act (CWA) was adopted in 1972 to protect the waters of the nation. The United States Environmental Protection Agency (EPA) and corresponding state agencies regulate public wastewater systems to ensure compliance with the CWA. The NPDES Permit Program was instituted to implement the CWA regulatory standards. All point sources (e.g., a discreet conveyance such as a pipe or ditch) discharging pollutants into Waters of the United States (WUS) are required to obtain an NPDES permit under the CWA. Facilities discharging directly to surface waters must also obtain an NPDES permit. The proposed Project will require an NPDES permit in association with both construction and operation. The NPDES permit is described in further detail in Section 4.11, Hydrology and Water Quality, under the Federal and State Regulatory Framework.

B. STATE

Porter-Cologne Water Quality Act

The California Legislature enacted the Porter-Cologne Water Quality Control Act in 1969 to preserve, enhance, and restore the quality of the State's water resources. The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) were established by the Act as the primary state agencies charged with controlling water quality in California. The Porter-Cologne Water Quality Control Act establishes water quality policy, enforces surface water and groundwater quality standards, and regulates point and non-point source pollutants. The Act also authorizes the SWRCB to establish water quality principles and guidelines for long-range resource planning including groundwater and surface water management programs and the control and use of recycled water.

State Water Resources Control Board

The SWRCB has dual authority to allocate and protect water. This two-fold responsibility enables the SWRCB to provide comprehensive protection for California's waters. Nine RWQCBs dispersed throughout California carry out the duties of the SWRCB. The RWQCBs develop and enforce water quality objectives and implementation plans that will best protect the beneficial uses of the state's waters.

The proposed Project is within the jurisdiction of the Colorado River Basin Regional Water Quality Control Board, Region 7 (RWQCB-7). The RWQCB-7 regulates the discharge of waste to surface waters (rivers, streams, lakes, wetlands, and the Pacific Ocean) as well as to storm drains, to the ground surface, and to groundwater.

Assembly Bill 885 - California Onsite Wastewater Treatment Systems

Assembly Bill (AB) 885 was signed into law in September 2000. AB 855 requires the SWRCB to develop statewide regulations for the permitting and operation of on-site wastewater treatment systems, better known as septic systems. These regulations are developed through consultation with the Department of Health Services (DHS), California Conference of Directors of Environmental Health (CCDEH), California Coastal Commission (CCC), counties, cities, and other interested parties. Individual disposal systems that use subsurface disposal are all included under AB 885 (Imperial County 2011, p. 3.11-5). The Project proposes an Onsite Wastewater Treatment System (OWTS).

C. LOCAL

Imperial County General Plan

The Imperial County General Plan does not contain any goals, objectives, policies or programs that pertain to wastewater or on-site septic systems that are directly applicable to the proposed Project.

Imperial County Public Health Department, Section of Environmental Health & Consumer Protection Services

The Imperial County Public Health Department, Section of Environmental Health & Consumer Protection Services, is responsible for issuance of sanitation permits for private on-site sewage disposal systems in the County. Coordination of site design for proposed projects must occur with the Public Health Department to obtain final permits. The Project's proposed on-site septic system(s) and leach field(s) will be subject to review by the County Public Health Department.

Imperial County Land Use Ordinance, Division 10 Building, Grading and Sewage Regulations

Chapter 13, Sanitation Permits, of the Imperial County Land Use Ordinance, Division 10 Building, Grading and Sewage Regulations, regulates the construction, relocation, and alteration of sewage disposal systems in the unincorporated areas of Imperial County. Standards for such systems described in this chapter must be met for a permit to be issued by the County Public Health Department. The Project's proposed septic system(s) and leach field(s) will be subject to these standards.

4.13.4.2 EXISTING SETTING

Currently, as an active agricultural crop area, the Project site is not connected to a municipal sanitary sewer system and no wastewater is currently generated on the Project site.

4.13.4.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The proposed Project would have a significant impact to wastewater if it would:

a) Require or result in the relocation of construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects; or

b) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity within the collection system to serve the project's projected demand in addition to the provider's existing commitments.

B. ISSUES SCOPED OUT AS PART OF THE INITIAL STUDY

Note that one CEQA significance criterion was scoped out as part of the Initial Study. Criteria "b" was eliminated from further consideration because the Project wastewater generated from sanitary facilities such as sinks and toilets in the O&M buildings will be sent to an on-site sanitary waste septic system and leach field to be installed in compliance with standards established by Imperial County Environmental Health Services. Thus, no impact to a wastewater treatment provider would occur.

C. METHODOLOGY

Evaluation of potential wastewater impacts of the proposed Project were based on review of the Project Area, as well as the Preliminary Geotechnical and GeoHazards Report prepared for the proposed Project (LandMark 2018). The Project-specific geotechnical report is provided as **Appendix E** on the attached CD of Technical Appendices to this EIR.

D. IMPACTS AND MITIGATION MEASURES

Construction of New Wastewater Treatment and Wastewater Treatment Infrastructure

Impact 4.13.9 The Project area is not currently served by a wastewater system. On-site septic system(s) and leach field(s) are proposed for each CUP where an O&M Building will be constructed. Near-surface soils are considered good in supporting an on-site septic systems and leach fields for wastewater disposal. Therefore, impacts to wastewater treatment and wastewater conveyance infrastructure are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS WITH AN O&M BUILDING

Construction

During construction, a temporary septic system for wastewater or a temporary storage holding tank would be utilized for wastewater and sewage at the solar field site parcels. Portable toilets would also be used throughout the solar field site parcels as needed. **No impact** would occur relating to wastewater systems during Project construction under both the Full Build-out Scenario and the Phased CUP Scenario.

Operation

During operations and maintenance of the Project, wastewater would be generated and collected from sinks and toilets in the O&M building(s). The Project Area is not currently served by a wastewater system, and as such the Project proposes development of on-site septic system(s) and leach field(s) to serve each CUP that has an O&M Building Complex. The Project will obtain a permit from the Imperial County Public Health Department to construct and operate septic system(s) and leach field(s) for the O&M building(s). Alternatively, wastewater will be treated and discharged pursuant to an operation and discharge permit from the Regional Water Quality Control Board (RWQCB).

On-site wastewater treatment systems (septic systems) are required to comply with the SWRCB's Water Quality Control Policy for siting, design, operation, and maintenance of onsite wastewater treatment systems (OWTS Policy). In addition to State requirements, siting and design must also meet local regulatory requirements as described in Title 9 of Imperial County's Codified Ordinance.

For non-residential facilities such as the proposed Project, wastewater facilities must also be designed in accordance with California Plumbing Code and Environmental Protection Agency requirements. The proposed wastewater system will be required to submit a wastewater treatment system application to

the Imperial County Public Health Department, Division of Environmental Health for review and approval prior to construction. The Department's review will ensure that the proposed system is designed and constructed consistent with all applicable codes and standards. Alternatively, wastewater may be treated and discharged pursuant to an operation and discharge permit from the RWQCB (refer to Impact 4.6.6 and associated analysis in Section 4.6, Geology and Soils).

According to the Preliminary Geotechnical and GeoHazards Report prepared for the proposed Project, near-surface soils generally consist of silty clays and clays having a low infiltration rate. The near-surface soils are considered good in supporting an on-site septic systems and leach fields for wastewater disposal. Groundwater in the Project vicinity is typically encountered at a depth of 5 to 10 feet below ground surface (LandMark 2018, p. 3).

Site-specific studies will be required during the final design phase and prior to the issuance of building permits for each O&M building proposing the use of an on-site wastewater treatment system to determine that County Environmental Health Standards are met with regard to soil percolation rates and separation of leach fields from groundwater. In addition, any on-site wastewater treatment system must be designed and installed in compliance with all applicable provisions of the Imperial County Code, including the Plumbing Code and ordinances governing Regulation of Sewage Disposal Systems and Sanitation Permits, as set forth in Title 9, Division 10, Chapters 4, 12 and 13, and the Imperial County Uniform Policy and Method for Soils Evaluation, Testing and Reporting (Relative to Applications for Private Sewage System Permits). Following compliance with the findings of the site-specific study and local and state requirements, impacts with regard to supporting an on-site wastewater treatment system during Project operation are considered **less than significant** on all CUPs where an O&M Building is proposed under both the Full Build-out Scenario and the Phased CUP Scenario (refer also to analysis in Section 4.6, Geology and Soils).

Decommissioning/Reclamation

Temporary septic systems or holding tanks and portable toilets may be used at O&M building(s) during decommissioning to provide needed sanitary facilities for on-site workers. However, temporary and portable restroom facilities would be self-contained and would not release wastewater or require soils capable of supporting on-site wastewater treatment systems. Therefore, **no impact** would occur during decommissioning of the O&M buildings in regard to soil capability to support septic systems under both the Full Build-out Scenario and the Phased CUP Scenario. Likewise, no impacts would occur following reclamation for both the Full Build-out Scenario and the Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.4.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

A. CUMULATIVE SETTING

Based on the absence of municipal wastewater infrastructure, the cumulative setting and geographic scope for wastewater service is limited to the Project Area.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Wastewater Impacts

Impact 4.13.10 Development of the proposed Project would generate demand for on-site wastewater treatment. Septic systems and leach fields are proposed at individual CUP Areas where an O&M building will be constructed to provide wastewater service. Therefore, cumulative wastewater impacts are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

The Project is proposed in a portion of the County that is characterized by agriculture and solar development. As such, no municipal wastewater infrastructure is located in the Project Area. Because the Project septic system(s)/leach field(s) would be independent of each other, and not connected to a municipal system, no cumulative impact would occur in association with other proposed, approved and reasonably foreseeable projects in the region. During construction, the Project proposes use of portable toilets throughout the Project site. **No cumulative impact** to wastewater systems would occur for either the Full Buildout Scenario or the Phased CUP Scenario.

Operation

As discussed under Impact 4.13.9, the solar field site parcels are not currently served by municipal wastewater service. Sanitary waste generated during Project operations would be collected and sent to on-site sanitary waste septic system(s) and leach field(s). Alternatively, the Project's wastewater will be treated and discharged pursuant to an operation and discharge permit from the RWQCB (refer to Impact 4.6.6 and associated analysis in Section 4.6, Geology and Soils).

Because of the separate function of the on-site septic system, and the lack of municipal infrastructure in the area, implementation of the Project would not contribute to a cumulative impact to wastewater facilities. The proposed wastewater facilities would be reviewed by the Imperial County Environmental Health Department to ensure that each facility is properly designed and that all wastewater requirements are satisfied. Therefore, cumulative impacts to wastewater service are **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be reclaimed to pre-Project soil conditions, which would not require provision of wastewater conveyance or treatment. Further, decommissioning of the on-site septic system would not have an impact on surrounding infrastructure as it functions independently. Portable toilets would be used throughout the Project Area as needed. Thus, impacts to wastewater treatment and infrastructure would be **less than cumulatively considerable** during decommissioning under both the Full Build-out Scenario and the Phased CUP Scenario. No wastewater systems would be needed as part of reclamation.

Mitigation Measures

None Required.

Significance After Mitigation

Not applicable.

4.13.5 SOLID WASTE

4.13.5.1 REGULATORY FRAMEWORK

A. STATE

California Integrated Waste Management Act

The State of California Integrated Waste Management Act (CIWMA) of 1989 (California Assembly Bill [AB] 939), which is administered by the Department of Resources Recycling and Recovery (CalRecycle), requires each city and county to develop a source reduction and recycling element (SRRE) of an integrated waste management plan containing specified components, including a source reduction component, a recycling component, and a composting component. CalRecycle summarizes waste management problems specific to each county and provides an overview of actions that would be taken to achieve the SRRE implementation schedule (Pub. Res. Code § 41780). Under the SRRE, counties are required to demonstrate how they intend to achieve the mandated diversion goals through the implementation of various programs. The SRRE was approved by CalRecycle (formerly California Integrated Waste Management Board [CIWMB]) on November 17, 1993 and adopted in December 1993. The goal of the solid waste management efforts is not just to increase recycling, but to decrease the amount of waste entering landfills. With certain exceptions, the SRRE of that plan is required to divert a minimum 50 percent of all solid waste from landfill disposal, through source reduction, recycling, and composting activities.

B. LOCAL

Countywide Integrated Waste Management Plan for Imperial County

All California counties are required to prepare and submit to CalRecycle a Countywide Integrated Waste Management Plan (CIWMP). The CIWMP is to include all SRREs, all Household Hazardous Waste Elements, a Countywide Siting Element, all Non-disposal Facility Elements, all applicable regional SRREs, Household Hazardous Waste Elements, and an applicable Regional Siting Element (if regional agencies have been formed). Imperial County's CIWMP was approved by CalRecycle in May of 2000. The County of Imperial agreed to implement the following programs to meet the required diversion goals:

1. Agriculture Plastic
2. Compost Operation
3. Procurement Policy
4. Christmas Tree Diversion
5. Commercial Source and Recycling
6. Construction and Demolition
7. School Recycling
8. County Waste Reduction Policy

County of Imperial Solid Waste Local Enforcement Agency (LEA)

The Imperial County Public Health Department provides details regarding solid waste handling. Enforcement of federal, state, and local laws and regulations within the jurisdiction of the County of Imperial protect public health safety and the environment by ensuring safe and proper solid waste management practices. Solid waste includes household trash and garbage, construction and demolition debris, commercial refuse, sludge, ash, discarded appliances and vehicles, manure, landscape clippings, and other discarded wastes (ICPHD 2019).

State law (Public Resources Code) requires every local jurisdiction to designate a solid waste Local Enforcement Agency (LEA), which is certified by the California Department of Resources Recycling and Recovery (Cal Recycle), to enforce federal and state laws and regulations for safe and proper handling of solid waste (ICPHD 2019).

Responsibilities of the LEA include accepting and processing all new and revised solid waste facility permits, issuing permits, and conducting regular inspections of permitted facilities. Along with inspecting solid waste landfills, the LEA conducts inspections on transfer/processing facilities and operations, construction and demolition sites, and composting operations. The LEA also inspects and monitors closed, illegal, inactive and abandoned solid waste disposal sites, responds to complaints of illegal disposal of solid waste and conducts waste hauler inspections (ICPHD 2019).

Imperial County General Plan

The Imperial County General Plan does not contain any goals, objectives, policies or programs pertaining to solid waste that are applicable to the proposed Project.

4.13.5.2 EXISTING SETTING

The Project site currently consist of agricultural land that is void of structures with the primary exception of IID irrigation facilities. As such, the Project site does not currently generate trash and therefore is not served by a solid waste disposal provider. The County has permitted nine landfills. The closest landfill is the Calexico Solid Waste Site (SWS) located at 133 West Highway 98 in Calexico, CA. This landfill is approximately 8 miles to the southeast. The second closest is the Imperial SWS located at 1705 West Worthington Road, Imperial, CA 92251. This landfill is approximately 12 miles to the north. The County has contracts with private collection companies (i.e. Republic Services) for solid waste pick-up.

As of the most recently available information on the CalRecycle website, the Calexico SWS had a remaining capacity of 1,808,802 cubic yards as of May 1, 2011. This facility accepts construction and demolition waste, agricultural waste and municipal waste. The facility accepts 150 tons of solid waste per day. The cease operation date is listed as November 11, 2077 (Calrecyle 2018).

The Imperial SWS had a remaining capacity of 180,000 cubic yards as of October 1, 2012. This facility accepts construction and demolition waste as well as municipal waste. The facility accepts 19 tons of solid waste per day. The cease operation date is listed as March 1, 2019 (Calrecyle 2018).

4.13.5.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance for Utilities and Service Systems criteria "d" and "e." The proposed Project would have a significant impact to solid waste if it would:

d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

In addition, the following County standards were analyzed to determine significant impacts. Based on these standards, the Project would have a significant impact if it would:

a) Result in the need for new systems or supplies, or a substantial expansion or alteration to solid waste materials recovery or disposal; or

b) Substantially affect the County's ability to comply with solid waste source reduction programs.

B. METHODOLOGY

Evaluation of potential solid waste impacts is based on similar projects, information provided by the Applicant, and research conducted on the CalRecycle website.

C. IMPACTS AND MITIGATION MEASURES

Generate Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste

Impact 4.13.11 Solid waste would be generated during construction, operation and maintenance, and decommissioning of the proposed Project. Solid waste materials would be disposed of using a locally-licensed waste hauling service and disposed of at a local landfill with sufficient capacity to accept this waste. Thus, a **less than significant impact** is identified for this issue under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction/Decommissioning

Minor demolition would occur during construction to remove the private farm canals and drains (Ferrara pers. comm., 2018). Small amounts of trash would be generated during construction from packaging materials delivered to the Project site. If any solar modules are broken or damaged during construction, Drew Solar will collect and recycle or otherwise dispose of the modules in accordance with the Federal Resource Conservation and Recovery Act (RCRA).

Construction and demolition related waste would be transported to a local landfill authorized to accept this waste for disposal or an appropriate recycling center authorized to accept recyclable materials. Disposal of construction and demolition waste is required to comply with the State and County requirements.

Some hazardous waste (waste oil and lubricants, spill clean-ups, etc.) would be generated in association with Project construction and decommissioning. As part of the decommissioning process, Drew Solar will collect and recycle the solar modules and batteries or otherwise dispose of them in accordance with RCRA (Ferrara pers. comm., 2018).

The Project will be required to comply with State laws and County Ordinance restrictions which regulate and control hazardous materials. All hazardous materials onsite will be disposed of in accordance with the law, which may include recycling (refer to analysis in Section 4.10, Hazards and Hazardous Materials). Therefore, a **less than significant impact** regarding solid waste service and landfill capacity is anticipated to occur during Project construction and decommissioning for both the Full Build-out Scenario and Phased CUP Scenario.

Operation

Once Project operations begin, small amounts of trash are likely to be generated by up to six full-time staff dispersed throughout the Project site if O&M building(s) are constructed. A contract would be initiated with a local waste provider for pick-up and disposal. Waste generated during operations would be recycled where possible and disposed of at a local landfill.

Very little hazardous waste (waste oil and lubricants, spill clean-ups, etc.) is expected to be generated during Project operation. If during operations, any solar modules are broken, damaged or degraded, they would be recycled or otherwise disposed of in accordance with RCRA (Ferrara pers. comm., 2018). The same would apply for degraded batteries.

The Project will be required to comply with State laws and County Ordinance restrictions which regulate and control hazardous materials. All hazardous materials onsite will be disposed of in accordance with the law, which may include recycling (refer to analysis in Section 4.10, Hazards and Hazardous Materials).

Therefore, a **less than significant impact** regarding solid waste service and landfill capacity is anticipated to occur during Project operation under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.5.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The geographic scope for the cumulative setting for solid waste is the service area of the solid waste contractor chosen by each individual CUP owner or operator. For conservative purposes, this service area is assumed in this analysis to encompass the entire County of Imperial. As previously described in the Existing Setting, the County has permitted nine landfills and contracts with private collection companies for solid waste pick-up. Other proposed, approved and reasonably foreseeable projects in the region are identified in Table 3.0-1 in Chapter 3.0, Introduction to the Analysis and Assumptions Used. All of these projects are located within the cumulative setting for solid waste.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste

Impact 4.13.12 Implementation of the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the County of Imperial, would result in cumulative demand for solid waste service and landfill capacity. However, the proposed Project would not generate a substantial quantity of waste, and disposal service is available to serve the Project. Therefore, cumulative solid waste impacts are considered **less than cumulatively considerable impact** under both the Full Build-out Scenario and Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

During construction, the proposed Project would generate some demolition materials from removal of the private farm canals and drains as well as construction waste. Cumulative project development in Imperial County, as identified in Table 3.0-1, would generate an additional demand for solid waste pick-up and disposal services. Solid waste disposal services are provided under contract with private waste hauling companies. Each CUP Area owner/operator of within the Project Area would contract with a private waste hauling/disposal company. Accordingly, each private waste hauling company operator may need to add additional staff, trucks and refuse and recycling bins to accommodate the increase in demand.

As discussed in the Existing Setting, the two local landfills closest to the Project have remaining capacity. While the Imperial SWS would likely close in 2019, the Calexico SWS has remaining capacity through year 2077 to accommodate Project construction demolition and construction waste as well as serve cumulative development identified in Table 3.0-1 (Calrecycle 2018).

Because no major demolition or waste would be generated during construction, the proposed Project would have a **less than cumulatively** considerable contribution to the cumulative solid waste impacts under both the Full Build-out Scenario and the Phased CUP Scenario. Because sites chosen for solar field development are typically desert or agricultural land void of structures, solar energy projects are not considered large waste generators and would not substantially increase demand for solid waste services or disposal. Therefore, under both the Full Build-out Scenario and Phased CUP Scenario, construction impacts to solid waste service and landfill capacity would be **less than cumulatively considerable**.

Operation

Once in operation, trash and waste generation would be minimal based on the small number of employees and lack of waste generating activities at each CUP. Solar energy projects do not generate large volumes of waste (based on the small number of employees and nature of the operation) and would not substantially increase demand for solid waste services or disposal. Therefore, it is anticipated that operational waste generation at other cumulative projects in the services area would also be minimal.

As discussed in the Existing Setting, the Imperial SWS would likely close in 2019. However, the Calexico SWS has remaining capacity through Year 2077 (Calrecycle 2018) to accommodate any Project operational waste as well as cumulative development identified in Table 3.0-1.

Therefore, during operation, the proposed Project would have a **less than cumulatively considerable** contribution to the cumulative solid waste impacts under both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. Decommissioning activities are similar to construction activities and are not anticipated to last as long as the construction activities. Similar to construction, decommissioning would result in the generation of recyclable and non-recyclable solid waste materials. Materials requiring disposal during decommissioning include steel, copper, and concrete. These materials will be recycled/disposed of according to a decommissioning/reclamation plan subject to approval by the County. The solar modules and batteries will be recycled or otherwise disposed of in accordance with RCRA (Ferrara, pers. comm., 2018).

Therefore, during Project decommissioning, cumulative impacts to solid waste service and landfill capacity are anticipated to be **less than cumulatively considerable** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

4.13.6 ELECTRICITY

4.13.6.1 REGULATORY FRAMEWORK

A. LOCAL

Imperial County General Plan

The Imperial County General Plan Land Use Element contains one goal and one objective that relate to electricity associated with the proposed Project. **Table 4.13-8** provides a consistency analysis of the applicable Imperial County General Plan goal and objective as they relate to the proposed Project. 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.

TABLE 4.13-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - ELECTRICITY

General Plan Goal and Objective	Consistent with General Plan?	Analysis
LAND USE ELEMENT		
Public Facilities		
Goal 8 Coordinate local land use planning activities among all local jurisdictions and state and federal agencies.	Yes	The proposed Project is being planned and designed in coordination with the County of Imperial as well as state and federal agencies as appropriate. Examples include but are not limited to the California Department of Fish and Wildlife, IID Water, IID Energy, Imperial County Planning and Development Services Department, Imperial County Public Works Department, Imperial County Air Pollution Control District, local landowners, and other solar project developers. Therefore, the proposed Project is consistent with this goal under both the Full Build-out Scenario and the Phased CUP Scenario.

TABLE 4.13-6
IMPERIAL COUNTY GENERAL PLAN CONSISTENCY ANALYSIS - ELECTRICITY

General Plan Goal and Objective	Consistent with General Plan?	Analysis
Objective 8.8 Ensure that the siting of future facilities for the transmission of electricity, gas, and telecommunications is compatible with the environment and County regulation.	Yes	The proposed Project is compatible with the environment as evidenced by the presence of existing electrical infrastructure (i.e. Centinela Solar Gen-Tie line). The proposed Project is an allowed use on parcels designated for "Agricultural" uses and zoned either A-2 (Agricultural General), A-2-R (General Agricultural Rural Zone), or A-3 (Heavy Agriculture) with approval of a CUP. The Applicant has applied for six CUPs to develop the proposed solar energy generation and storage facilities. In addition, the Applicant has filed an application for a General Plan Amendment (GPA) for amendment of the Renewable Energy & Transmission Element to create an Island Overlay; a Zone Change to add the RE Overlay Zone to the Project site; and a variance because the proposed Gen-Tie structures would reach over 120 feet in height. Therefore, the proposed Project is consistent with this objective under both the Full Build-out Scenario and the Phased CUP Scenario.

4.13.6.2 EXISTING SETTING

IID provides the primary electrical service for residential, commercial, and industrial customers in the vast majority of Imperial County and the Coachella Valley area of Riverside County. A small area in the northeastern portion of the County is served by Southern California Edison. IID currently provides electricity to the Project area. There are several existing solar energy generation facilities in the Project vicinity, as well as transmission infrastructure connecting into the California electricity grid. Most immediately, the Drew Switchyard is located directly south across SR 98 from the southern boundary of the Project site, and the Centinela Gen-Tie infrastructure is located immediate east of the eastern border of the Project site. Both of these facilities feed into SDG&E's IIV Substation.

4.13.6.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance. The proposed Project would have a significant impact to electrical service if it would:

a) Require or result in the relocation or construction of new or expanded electric power facilities, the construction of which could cause significant environmental effects.

B. METHODOLOGY

The analysis of impacts to electricity and electrical infrastructure was based on information provided by the Applicant and correspondence with the IID.

C. IMPACTS AND MITIGATION MEASURES

Relocation or Construction of New or Expanded Electric Power Facilities

Impact 4.13.13 The proposed Project would increase the demand for electrical services from IID to operate the O&M building(s) and keeping inverters warm during the evening hours. Within its on-site disturbance area, the Project includes a substation feedback and transmission interconnection coordinated with IID through an Affected Systems Agreement and Back-feed and Station Power Service Agreement. No permanent expansion of IID electrical infrastructure is necessary for the proposed Project. Thus, the proposed Project's impacts to electricity and electrical infrastructure are **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction, Operation and Decommissioning

The Project will likely use temporary diesel generator power for construction and decommissioning work where on-site electrical lines are not available. At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions.

During operation, the Project would need to collect electricity from the various CUPs through the on-site collector lines. Electricity conveyed through the onsite collector lines would eventually be transmitted through the Centinela Solar Farm Gen-Tie. The collector lines and Gen-Tie would include both electric line crossings of IID facilities and crossings of Caltrans facilities that would be subject to agreements from these entities. Project crossings would not interfere with the function or purpose of the IID or Caltrans facilities.

IID does not have electric infrastructure in place to provide electric service to operate the proposed Project. However, no new electric infrastructure is needed because the Project will generate its own power supply during the day. The energy storage component could provide for nighttime energy demands (such as security lighting). Alternatively, the Project may import energy from the grid to provide on-site energy needs in the evening hours (Ferrara, pers. comm., 2018). Therefore, no relocation or construction of new or expanded IID infrastructure will be required to accommodate the proposed Project.

Any electricity required during Project decommissioning would likely be provided by temporary portable diesel generators. Therefore, construction, operation and maintenance-related impacts on electricity and electrical infrastructure are **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Mitigation Measures

None Required.

Significance After Mitigation

Not Applicable.

4.13.6.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for electrical service is IID's service area, which encompasses almost all of Imperial County. Only a small portion of the northeast corner of the County receives service from Southern California Edison. The proposed Project and all proposed, approved and reasonably foreseeable projects in the region are identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis, are within IID's service area.

B. CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Impacts to Electric Service

Impact 4.13.14 Implementation of the proposed Project, in combination with proposed, approved and reasonably foreseeable projects in the County of Imperial, would result in a minimal increase in the current use of IID electricity and a substantial increase in solar energy generation. The Project does not require the relocation or construction of new or expanded IID facilities. Therefore, cumulative impacts to electrical service are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ ALL CUP AREAS

Construction

The proposed Project, in combination with the other proposed, approved and reasonably foreseeable projects in the region identified in Table 3.0-1, would obtain power from propane and diesel generators where on-site electrical lines are not available to power construction trailers and construction and decommissioning work.

The Proposed Project, as well as the projects identified in Table 3.0-1, may contribute to electricity demands in IID's service area during construction. However, once operational, the proposed Project would also generate a substantial amount of electricity for sale to the electrical grid. Therefore, the proposed Project would result in a beneficial contribution to electrical service through the addition of electricity to the IID grid. Other similar solar energy generation projects would also contribute additional electricity to the IID grid. Some cumulative projects may result in the need for relocation or construction of new or expanded IID facilities which would be addressed on a project-by-project basis. However, the Project does not require the relocation or construction of new or expanded IID facilities.

Thus, the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the region, in the County of Imperial would generate electricity, providing additional power to the IID electrical grid. Therefore, cumulative impacts to electric service during Project construction are considered **less than cumulatively considerable** under both the Full Build-out Scenario and by each individual CUP Area as proposed under the Phased CUP Scenario.

Operation

IID does not have electric infrastructure in place to provide electric service to operate the proposed Project or some of the projects identified in Table 3.0-1. However, no electrical service infrastructure is needed because the Project and the solar projects identified in Table 3.0-1 will generate their own power supply during the day. The energy storage component could provide for nighttime energy demands (such as security lighting). Alternatively, the Project may import energy from the grid to provide on-site energy

needs in the evening hours (Ferrara, pers. comm., 2018). Therefore, no relocation or construction of new or expanded IID electric infrastructure will be required to accommodate the proposed Project. The facilities are powered through the proposed Project's design and designs of the solar projects identified in Table 3.0-1.

In addition, during operation, the proposed Full Build-out Scenario would contribute approximately 100 MW to the IID electrical grid. Likewise, the amount of electricity required to operate the Project under both the Full Build-out Scenario or by individual CUP Area under the Phased CUP Scenario would be more than off-set by the 100 MW the Project would generate.

While the proposed Project, as well as the projects identified in Table 3.0-1, will contribute to electricity demands in IID's service area, these solar energy generation facilities would also generate a substantial amount of electricity for sale to the electrical grid. Therefore, the proposed Project, and each individual solar energy generation facility identified in Table 3.0-1, would result in a beneficial contribution to electrical service through the addition of electricity to the IID grid.

Overall, the proposed Project, in combination with other proposed, approved and reasonably foreseeable projects in the County of Imperial would generate electricity, providing additional power to the IID electrical grid without relocating or constructing new or expanded IID electric infrastructure. Therefore, cumulative impacts to electric service during Project operation are considered **less than cumulatively considerable** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, Project electricity components would be removed and decommissioned and the solar field site parcels would be restored to pre-Project soil conditions. Therefore, cumulative impacts to electricity service during Project decommissioning are considered **less than cumulatively considerable** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario. Following reclamation, no impact with regard to relocating or constructing new or expanded IID electric infrastructure would occur.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.13.7 TELECOMMUNICATIONS

4.13.7.1 REGULATORY FRAMEWORK

A. LOCAL

Imperial County General Plan

The Imperial County General Plan does not contain any goals, objectives, policies or programs pertaining to telecommunications that are applicable to the Proposed Project.

4.13.7.2 EXISTING SETTING

The solar field site parcels currently consist of IID-owned agricultural land that is void of structures with the exception of IID irrigation facilities. As such, a telecommunications provider does not currently serve the Project site. Several internet and telephone companies provide service in Imperial County. The Applicant has indicated that AT&T would serve the project (Ferrara, pers. comm., 2018).

4.13.7.3 IMPACTS AND MITIGATION MEASURES

A. STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the CEQA Guidelines Appendix G thresholds of significance for Utilities and Service Systems. The Proposed Project would have a significant impact to telecommunication service if it would:

a) Require or result in the relocation or construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

B. METHODOLOGY

The analysis of impacts to telecommunications (telephone and internet) service was based on information provided by the Applicant.

C. IMPACTS AND MITIGATION MEASURES

Impacts to Telecommunications Facilities

Impact 4.13.15 The proposed Project and surrounding area is not currently served by telecommunications facilities. The proposed Project would increase the demand for telephone and internet services. AT&T is anticipated to provide service to the Project as needed in accordance with all applicable fees. Therefore, impacts to telecommunication facilities are considered **less than significant** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction, Operation

During construction and operation, the Project is anticipated to utilize telephone and internet services provided by AT&T. The Applicant would be responsible for contacting AT&T to request service and pay all applicable fees. Telephone and internet service is provided and approved on a project-by-project basis. Therefore, impacts to telecommunications facilities are considered **less than significant** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario.

Decommissioning/Reclamation

At the end of the Project's operational life, the components of the Project would be removed and decommissioned and the solar field site parcels / CUP Areas would be restored to agricultural use (i.e. pre-Project soil conditions) and telephone and internet services would no longer be needed. Therefore, during Project decommissioning, impacts to telecommunications facilities would be anticipated to be **less than significant** under both the Full Build-out Scenario and as proposed under the Phased CUP Scenario. Neither telephone or internet service would be required once the Project site is reclaimed.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

4.13.7.4 CUMULATIVE SETTING, IMPACTS AND MITIGATION MEASURES

A. CUMULATIVE SETTING

The cumulative setting for telephone and internet services is AT&T's service area in Imperial County. All of the cumulative projects identified in Table 3.0-1 in Chapter 3.0, Introduction to the Environmental Analysis, within Imperial County are within AT&T's service area. However, other projects within the cumulative projects list may be served by other private companies offering high speed internet and telephone.

B. CUMULATIVE IMPACTS

Cumulative Impacts to Telecommunications Facilities

Impact 4.13.16 Implementation of the Proposed Project, in combination with other existing, proposed, approved and reasonably foreseeable projects in the region, would result in cumulative demands to telephone and internet service. Telecommunication service providers procure service to individual development projects on an as-needed basis. Therefore, cumulative impacts to telecommunication facilities are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

FULL BUILD-OUT SCENARIO/ALL CUP AREAS

Construction, Operation

AT&T as well as other internet and telephone service providers would provide service to individual projects on an as-needed basis. Infrastructure can be built or extended to service new projects as necessary. Therefore, the proposed Project's contribution to cumulative impacts to telephone and internet services is considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario. Likewise, because service can be provided on an as-needed basis, cumulative impacts to telecommunications services are considered **less than cumulatively considerable** under both the Full Build-out Scenario and the Phased CUP Scenario.

Decommissioning

At the end of the Project's operational life, the components of the Solar Energy Center would be removed and decommissioned and the CUP Areas would be restored to agricultural use (i.e. to pre-Project soil conditions) and telephone and internet services would no longer be needed. Therefore, during decommissioning of the Project, cumulative impacts to telecommunications facilities would be anticipated to be **less than cumulatively considerable** under both the Full Build-out Scenario and by each individual CUP Area as proposed under the Phased CUP Scenario. Neither telephone or internet service would be required once the Project site is reclaimed.

Mitigation Measures

None required.

Significance After Mitigation

Not Applicable.

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4.14.1 ENERGY CONSERVATION

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include: 1) decreasing overall per capita energy consumption; 2) decreasing reliance on non-renewable fossil fuels such as coal, natural gas and oil; and 3) increasing reliance on renewable energy sources. In order to assure that energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code [PRC] section 21100(b)(3)).

The Drew Solar Project (i.e. proposed Project or Project) consists of a proposal to develop a renewable energy generation and storage facility employing photovoltaic (PV) solar technology. The Project proposes development of the facility over five phases that would collectively generate approximately 100 MW of renewable energy. The ultimate energy output is dependent on several variables, including off-take arrangements and the evolving efficiency of PV panels. As a result, the Project could generate more or less than 100 MW of renewable energy.

The Applicant has submitted six CUP applications to the County to allow for the development of the six Project Site parcels (solar field site parcels) as a solar energy facility. Five of the CUP applications are for the development of solar energy generation facilities on agriculturally-zoned land, and the sixth is to also allow for energy storage facilities. Each of the CUP Areas may incorporate some amount of energy storage along with the energy generation panels. Energy stored may be generated on-site or be imported from the electrical grid. In general, energy storage works to resolve grid reliability issues or to shift energy from times of abundance to times of need. Times of abundance generally occur when renewable energy is plentiful and times of need are generally occur either in the early morning hours or late evening hours when there is less renewable energy on the grid.

To accomplish the goal of decreasing reliance on fossil fuels and increasing reliance on renewable energy, on-site energy storage systems are proposed in place of a gas fired peaker to meet consumers demand when renewable energy sources are not available. Current battery energy storage systems have round trip efficiencies of about 85 percent. Therefore, approximately 15 percent of the energy consumed is lost during the consumption and discharge process. These losses were not considered in the calculations below (**Table 6.0-2** through **Table 6.0-5**) because energy storage would not be constructed except to enable a more efficient use of renewable energy.

Implementation of the Project would result in production of renewable solar energy that would help the State of California meet its goals for reducing reliance on fossil fuels and increasing use and production of and reliance on alternative renewable energy sources.

4.14.2 ENERGY BACKGROUND

The study area for energy resources includes the entire State of California. The following sections describe the electricity supply in California and summarize California's status in achieving statewide renewable energy goals.

A. CALIFORNIA'S ENERGY SUPPLY

In 2002, California established its Renewable Portfolio Standard (RPS) program with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least one percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission (CPUC) subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code [PUC] Section 399.15(b)(1)). Governor Schwarzenegger signed EO S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. Specifically, California's RPS requires retail sellers [investor-

owned utilities (IOUs), electric service providers (ESPs) and community choice aggregators (CCAs)] regulated by the CPUC to procure 33 percent of annual retail sales from eligible renewable sources by 2020. In 2015, Senate Bill 350 enhanced the requirement, requiring IOUs, publicly owned utilities, ESPs, and CCAs to increase procurement from eligible renewable energy resources to 50 percent of total procurement by 2030. The CPUC and the California Energy Commission (CEC) are jointly responsible for implementing California's 50 percent RPS program. In 2016, California's three large IOUs, Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas & Electric (SDG&E), collectively served 34.76 percent of their 2016 retail electricity sales with renewable power (CPUC 2018).

In 2016, Californians consumed 284,060 Gigawatt-hours (GWh) of electricity, and 12,750 million therms of natural gas (CEC 2018a). The IID, the provider of electricity to the County of Imperial, uses a comprehensive energy strategy that relies on expansion of customer energy efficiency and demand-side management programs to meet its customers' future power needs in ways that are consistent with the State's Energy Action Plan. The strategy also includes securing additional renewable power resources before seeking to meet customer energy needs through efficient traditional generation sources.

B. ENERGY RESOURCES

Issues related to energy use include the levels of consumption of non-renewable and renewable energy sources for the construction, operation, and decommissioning/reclamation of the Full Build-out Scenario and all CUP Areas (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) which comprise the Phased CUP Scenario.

Transportation energy use is related to the following factors: the efficiency of automobiles, trucks, off-road equipment, and other mobile transportation; the choice of employee travel mode (automobile, carpool, or public transit); and miles traveled for each mode. Energy would also be consumed with construction equipment and routine operation activities, and decommissioning activities associated with both the Full Build-out Scenario and Phased CUP Scenario.

C. CALIFORNIA BUILDING STANDARDS CODE (TITLE 24, CALIFORNIA CODE OF REGULATIONS)

California Code of Regulations (CCR), Title 24, also known as the California Building Standards Code, is a compilation of three types of building criteria from three different origins:

- Building standards that have been adopted by state agencies without change from building standards contained in national model codes;
- Building standards that have been adopted and adapted from the national model code standards to meet California conditions; and
- Building standards, authorized by the California legislature, that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns.

Notwithstanding, the national model code standards adopted into Title 24 apply to all occupancies in California except for modifications adopted by state agencies and local governing bodies. Title 24 applies to all building occupancies, and related features and equipment throughout the state, and contains requirements to the structural, mechanical, electrical, and plumbing systems, and requires measures for energy conservation, green design, construction and maintenance, fire and life safety, and accessibility. California's Building Standards Code and Green Building Standards Code are updated on an approximately

three-year cycle. The 2016 California Building Standards Code and 2016 Green Building Standards Code went into effect on January 1, 2017 and are currently in the process of a 2018 update (CBSC 2018).

Cities and counties are required by state law to enforce CCR Title 24 (reference Health and Safety Code Sections 17958, 17960, 18938(b), & 18948). The proposed O&M building(s) will need to comply with Title 24. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. California's Building Energy Efficiency Standards are also updated on an approximately three-year cycle. The effective date of the 2016 Standards was January 1, 2017 (CEC 2018b).

4.14.3 ENERGY THRESHOLDS AND ENERGY RESOURCE IMPACTS

A. ENERGY THRESHOLDS

To ensure energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources. Accordingly, this section assesses the potential impacts of construction, operation, and decommissioning/reclamation of the Project on energy resources based on Appendix F, Energy Conservation, of the State CEQA Guidelines.

Environmental effects may include the Project's energy requirements and its energy use efficiencies by amount and fuel type during construction, operation and decommissioning; the effects of the Project on local and regional energy supplies; the effects of the Project on peak and base period demands for electricity and other forms of energy; the degree to which the Project complies with existing energy standards; the effects of the Project on energy resources; the Project's projected transportation energy use requirements; and its overall use of efficient transportation alternatives, if applicable. The discussion of energy resources impacts collectively addresses these topics while specifically addressing CEQA Guidelines, Appendix G. The Project would result in a significant impact to energy resources if it would result in any of the following:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

B. ENERGY RESOURCES IMPACTS

Use of Energy Resources During Project Construction and Operation

Impact 4.14.1 Energy requirements for construction, operation, and decommissioning of the Project under the Full Build-out Scenario and all CUP Areas (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) as proposed under the Phased CUP Scenario would not result in inefficient energy use by amount or fuel type. Therefore, the Project would therefore have a **less than significant impact** on energy use by amount or fuel type.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

Construction energy refers to the energy required to construct the proposed Project. Energy would be required for site preparation activities such as light grading and compaction, as well as for demolition of the landowner irrigation ditches that are located within the boundary of each CUP Area that would conflict with the site's configuration. Other energy consumption also includes changes in energy demand due to transportation of building materials and construction of buildings and infrastructure on the Project site. Indirect energy consumption from the production of fuel as well as transportation/transmission services

for end users is too speculative to consider in this analysis because the data need to quantify this information is neither readily available nor reliable.

Project construction under both the proposed Full Build-out Scenario and Phased Buildout Scenario would result in a new single switchyard common to all CUP Areas. Alternatively, each CUP Area may independently construct a 230-kilovolt (kV) step-up transformer and switchyard. The Project would also include additional auxiliary facilities such as raw water/fire water storage, treated water storage, water filtration buildings and equipment, equipment control buildings, on-site septic system(s) and parking. All of these construction activities would require the use of energy.

Natural-gas fired and electrically-powered equipment or vehicles are not expected to be used during construction of the proposed Project. Thus, there would not be a need for new or substantially altered electrical power or natural gas utility systems during construction. Construction equipment and vehicles would use diesel fuel and gasoline in customary ways during the construction process. **Table 4.14-1** includes a summary of the types and pieces of equipment associated with construction.

TABLE 4.14-1
SUMMARY OF EQUIPMENT BY USE AND NUMBER

Equipment Type	Quantity
Site Preparation	
Graders	1
Scrapers	1
Brush Chippers	1
Rubber Tired Dozers	1
Water Trucks	1
Facility Installation	
Excavator	2
Mast Pile Drivers	10
Rough Terrain Forklifts	10
Trenchers	1
Water Trucks	1

Source: Recon 2018a, p. 36.

As shown, a variety of equipment would be needed in association with various aspects of Project construction. Worker and construction truck traffic would generate 436 Average Daily Trips (ADT; LOS 2018 p. 15). These trips would be generated along designated Project haul routes during construction. However, use of gasoline and diesel in association with worker trips and equipment operation is not considered a wasteful use of energy resources. This is because the Project will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the ICAPCD CEQA Air Quality Handbook and discussed in Section 4.4, Air Quality of this EIR. The use of better engine technology, in conjunction, with the ICAPCD's standard mitigation measures will reduce the amount of energy used for the projects. The standard mitigation measures for construction combustion equipment include:

- 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 five minutes at a maximum.

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

Furthermore, vehicle trips would be limited to construction workers and equipment traveling to and from the Project site (i.e. no wasteful trips). As Project construction activities represent a necessary, one-time expenditure of non-renewable energy in order to achieve a new source of renewable solar energy that would generate electricity for approximately 30 years, the associated energy use is not considered wasteful. Thus, construction under both the Full Build-out Scenario and Phased CUP Scenario would create a **less than significant** impact on energy requirements and energy use efficiencies by amount and fuel type.

Operation

During Project operation, energy would be used at O&M buildings, for security lighting, and operational vehicular traffic. The majority of fuel consumption associated with Project operation under the Full Build-out Scenario and Phased CUP Scenario would involve the use of motor vehicles by employees that operate and maintain the solar facilities. The Project will have approximately six full-time personnel and generate up to 20 ADT (conservatively based on ten full-time personnel; LOS 2018), which will not result in the use of significant amounts of fuel, particularly considering the size and scope of the Project.

There would also be an increase in diesel fuel usage associated maintenance equipment during Project operation under both the Full Build-out Scenario and Phased CUP Scenario. The Project does not propose use of natural gas. While diesel fuel is a non-renewable resource, the use of diesel fuel to operate and maintain a solar energy generation facility that enables the County and State to comply with the requirements of the AB 2076 regulation (i.e., CEC and CARB strategy to reduce petroleum dependence) is not considered a wasteful or inefficient use of energy resources. Further, as a renewable energy generation facility, the Project would contribute to California's supply of non-fossil fuel energy resources over the long-term. The Project would also incorporate energy efficient measures in the O&M building(s) (i.e. energy efficient light bulbs).

It should also be noted that the Project will generate its own solar energy to serve much of its operational energy needs. The Project proposes solar facilities that, once operational, would only require energy consumption for the operation of conversion and transmittal facilities, O&M buildings operations, panel washing, and maintenance of Project roadways. During the day much of the on-site power will be provided by the Project itself. In the evening hours, the transmission facilities proposed by the Project to export power would also be used to supply a back-feed of power from IID to the Project Site to operate the O&M building(s) and keep the inverters warm. Through back-feed, on-site power needs are partially satisfied by the renewable energy generated by the Project.

The Project operational energy use for the typical CUP Area (CUP#17-0031 thru CUP#17-0035 and CUP# 18-0001) is estimated at 687 megawatt hours (MWh) per year (see total kw in Table 6.0-4 and 6.0-5: [0.3 kw + 1.584 kw] x 365 = 687 MWh per year) (Drew Solar 2018b). According to the CEC, in 2016 Imperial County used 1,419,155,125 MWh (CEC 2018a). The operational energy consumption for a typical CUP would therefore be approximately 0.000048 percent ([687 MWh per year ÷ 1,419,155,125 MWh] x 100 = 0.000048) of the Imperial County consumption.

The Project's operational energy use under the Full Build-out Scenario is estimated at 1,449.78 MWh per year (see total kw in Table 6.0-2 and 6.0-3: [0.3 kw + 3.672 kw] x 365 = 1,449.78 MWh per year) (Drew Solar 2018b). The operational energy consumption under the Full Build-out Scenario would therefore be 0.00010 percent ([1,449.78 ÷ 1,419,155,125] x 100 = 0.00010) of the 2016 Imperial County consumption. However, the proposed Project is a PV solar energy generation and storage facility, producing renewable

energy. Annual energy production from the completed 100 MW Full Build-out Scenario would likely be approximately 306,000 MWh[1] (Drew Solar 2018b). Therefore, the Full Build-out Scenario would result in an increase to the State's renewable energy supply. The Project's features described above, as well as the Project's contribution towards compliance with the State's RPS policies and implementation programs, taken as a whole, would ensure that the proposed Project is operated in a manner that does not use fuel or energy in a wasteful manner. Additionally, because the proposed Project would result in an increase in renewable energy supply and use of gasoline and diesel during Project operations would be minimal and in support of the creation of renewable energy, impacts related to efficient use of electricity and diesel fuel during Project operations would be **less than significant**.

Decommissioning/Reclamation

Similar to Project construction, decommissioning/reclamation under the Full Build-out Scenario and Phased CUP Scenario would require energy in the form of gasoline and diesel fuel for worker vehicles, equipment and water for controlling dust. These activities would be carried out as efficiently as possible by minimizing idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum. Where possible, replacement of fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner) would also be used to reduce the use of diesel and gasoline. The use of diesel fuel and gasoline as part of Project decommissioning is not considered a wasteful use of energy resources because these activities represent an efficient and necessary use of energy.

Decommissioning/reclamation under the Full Build-out Scenario and by CUP Area (CUP 17-0031 thru CUP 17-0035 and CUP 18-0001) as proposed under the Phased CUP Scenario would be a necessary, one-time expenditure of non-renewable energy in order to implement the Reclamation Plan and restore the solar field site parcels to a condition suitable for future agricultural uses. Thus, decommissioning under both the Full Build-out Scenario and Phased CUP Scenario would create a **less than significant** impact on energy requirements and energy efficiency by use and fuel type.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Consumption of Energy - Effects on Local and Regional Energy Supplies

Impact 4.14.2 The proposed Project, whether implemented under the Full Build-out Scenario or the Phased CUP Scenario, would not use substantial amounts of local and regional energy supplies or create requirements for additional capacity. Therefore, the Project's impact on local and regional energy supplies would be **less than significant**.

Construction

As described under Impact 4.14.1, construction of the proposed Project would require a one-time expenditure of non-renewable fossil fuels (diesel and gasoline). Based on the size of the Project (855 gross acres), the limited duration of construction (18 months under the Full Build-out Scenario or phased over 10 years, with each of the six individual CUP Areas taking approximately seven months under the Phased CUP Scenario), and the availability of diesel fuel and gasoline, the Project would not have a significant impact on local and regional energy supplies. Moreover, the Project, whether constructed under the Full

[1] Calculated by Drew Solar engineers using a program called "PV Syst" based on numerous variables.

Build-out Scenario or the Phased CUP Scenario, would implement energy efficiency measures during construction including use of alternative fueled or catalyst equipped diesel construction equipment, minimizing idling time, etc.

All of these measures would serve to reduce fossil-fuel use and minimize the waste of energy. Thus, construction under both the Full Build-out Scenario and Phased CUP Scenario would create a **less than significant** impact on local and regional energy supplies or create or contribute to the need for additional capacity.

Operation

The Project will ultimately generate more or less than 100 MW of renewable energy. Implementation of the Project would result in production of renewable solar energy that would help the State of California meet its goals for reducing reliance on fossil fuels and increasing reliance upon and use and production of renewable energy sources. The Project proposes solar facilities that, once operational, would only require energy consumption for the operation of conversion and transmittal facilities, O&M buildings operations, panel washing, and maintenance of Project roadways. During the day, the on-site power would be provided by the Project itself. In the evening hours, the transmission facilities proposed by the Project to export power would be used to supply a back-feed of power to the Project Site from IID to operate the O&M building(s) and keep the inverters warm. Through back-feed, on-site power needs would be partially satisfied by the renewable energy generated by the Project. Therefore, the Project will have a **less than significant impact** on local and regional energy supplies and the need for additional capacity during operation.

Decommissioning/Reclamation

Similar to Project construction, decommissioning/reclamation under both the Full Build-out Scenario and Phased CUP Scenario would require energy in the form of gasoline and diesel fuel for worker vehicles, equipment and water for controlling dust. Likewise, as with construction, decommissioning/reclamation would occur for a limited duration over a limited area and is not anticipated to have a significant impact on local and regional energy supplies based on the availability of diesel fuel and gasoline.

Again, as with construction, mitigation measures would be implemented during decommissioning, to reduce wasteful or inefficient use of energy (e.g. shutting equipment off when not in use, reducing the time of idling to five minutes at a maximum, etc.). Therefore, decommissioning under both the Full Build-out Scenario and Phased CUP Scenario would create a **less than significant** impact related to local and regional energy supplies and the need for additional capacity.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Consumption of Energy - Effects on Peak and Base Period Demands

Impact 4.14.3 The proposed Project would not impose additional demands on peak and base period demands for electricity and other forms of energy. To the contrary, under both the Full Buildout Scenario and the Phased CUP Scenario, the Project would contribute electricity during peak and base period demands. Therefore, the Project's impact on peak and base period demands for electricity and other forms of energy would be **less than significant**.

Construction

IID typically determines its ability to provide temporary electricity for construction shortly before start of construction. In the event that IID is not able to provide temporary electricity during construction, the Project will utilize generators (Ferrara, pers. comm., 2018). Use of diesel fueled generators would occur for a limited duration during Project construction. As no electric infrastructure is in place to accommodate construction activities, the proposed Project would not impose demands on peak and base period demands for electricity. Diesel fuel is a readily available fuel source and as discussed above, will be used in an efficient and non-wasteful manner. Therefore, the proposed Project, whether implemented under the Full Build-out Scenario or the Phased CUP Scenario, would result in a **less than significant impact** on peak and base period demands for electricity and other forms of energy during construction.

Operation

As discussed above under Impact 4.14.1, operational energy use for the typical CUP (CUP#17-0031 thru CUP#17-0035 and CUP# 18-0001) is expected to be at 687 megawatt hours per year (MWh/year) and 1,449.78 MWh/year under the Full Build-out Scenario. Energy use by a typical CUP Area would represent approximately 0.000048 percent of Imperial County's 2016 1,419,155,125 MWh use; energy use under the Full Build-out Scenario would represent approximately 0.0001 percent of Imperial County's 2016 1,419,155,125 MWh use.

Tables 4.14-2 and 4.14-**3** provide the energy usage during generating and non-generating hours for the Full Build-Out Scenario; **Tables 4.14-4** and **4.14-5** provide the energy usage during generating and non-generating hours for the Phased CUP Scenario. As shown, each unit would result in similar generating and non-generating hours.

TABLE 4.14-2
ENERGY CONSUMPTION - GENERATING HOURS - FULL BUILD-OUT SCENARIO

Unit Description	Number of Units	Power Requirements Per Unit (W)	Total Power Consumption (kw)
Solar Arrays	100	0	0
Substation	1	0	0
O&M Building	1	20,000	20
Miscellaneous	1	5,000	5
Total Power Consumption (kw)			25
Total Electric Consumption over 12 Hours (MWh)			0.3

Source: (Drew Solar 2018b)

TABLE 4.14-3
ENERGY CONSUMPTION - NON-GENERATING HOURS - FULL BUILD-OUT SCENARIO

Unit Description	Number of Units	Power Requirements Per Unit (W)	Total Power Consumption (kw)
Solar Arrays	100	0	235
Substation	1	0	46

TABLE 4.14-3
ENERGY CONSUMPTION - NON-GENERATING HOURS - FULL BUILD-OUT SCENARIO

Unit Description	Number of Units	Power Requirements Per Unit (W)	Total Power Consumption (kw)
O&M Building	1	20,000	20
Miscellaneous	1	5,000	5
Total Power Consumption (kw)			306
Total Electric Consumption over 12 Hours (MWh)			3.672

Source: Drew Solar 2018b.

The Full Build-out Scenario would use 0.3 MWh during generating and 3.67 MWh during non-generating hours (Drew Solar 2018b), which is substantially less than the County's overall 2016 energy usage 1,419,155,125 MWh (CEC 2018a).

TABLE 4.14-4
ENERGY CONSUMPTION - GENERATING HOURS – PHASED CUP SCENARIO

Unit Description	Number of Units	Power Requirements Per Unit (W)	Total Power Consumption (kw)
Solar Arrays	100	0	0
Substation	1	0	0
O&M Building	1	20,000	20
Miscellaneous	1	5,000	5
Total Power Consumption (kw)			25
Total Electric Consumption over 12 Hours (MWh)			0.3

Source: Drew Solar 2018b.

TABLE 4.14-5
ENERGY CONSUMPTION - NON-GENERATING HOURS – PHASED CUP SCENARIO

Unit Description	Number of Units	Power Requirements Per Unit (W)	Total Power Consumption (kw)
Solar Arrays	100	2,350	47
Substation	1	115,000	60
O&M Building	1	20,000	20
Miscellaneous	1	5,000	5
Total Power Consumption (kw)			132
Total Electric Consumption over 12 Hours (MWh)			1.584

Source: Drew Solar 2018b.

As shown in **Tables 4.14-4** and **4.14-5**, the Phased CUP Scenario would use 0.3 MWh during generating hours and 8.73 MWh during non-generating hours, which is substantially less than the County's 2016

overall energy usage of 1,419,155,125 MWh. Thus, Project implementation under both the Full Build-out Scenario and the Phased CUP Scenario would generate far more energy than the amount consumed in association with operation.

During operation, the proposed Project will generate its own power supply during the day. The Full Build-out Scenario would contribute approximately 100 MW, or approximately 20 MW per each of the six CUP Areas under the Phased CUP Scenario. This creation of renewable energy will contribute to the availability of energy during peak and base period demands providing a positive input to the existing system. Annual energy production from the completed 100 MW Full Build-out Scenario would likely be approximately 306,000 MWh[1] (Drew Solar 2018b). Therefore, the Full Build-out Scenario would result in an increase to the State's renewable energy supply.

In addition, the transmission facilities proposed by the Project to export power would be used to supply a back-feed of power to the Project Site from IID in the evening hours to operate the O&M building(s) and keep the inverters warm. The amount of electricity required under both the Full Build-out Scenario and Phased CUP Scenario would be more than off-set by the 100 MW the Project would generate. The O&M building(s) would be designed to meet the requirements of the California Building Code, which encompasses the California Energy Code. The Applicant would use energy efficient light bulbs, and energy efficient windows, insulation, etc. as required by the California Energy Code to minimize peak hour demands. Based on the Project's contribution of renewable energy supplies for use during peak and base periods of demand, the relatively small increases in electricity consumption during operation of the Project would have a **less than significant impact** on local or regional energy supplies and would not create a significant effect on either peak and base period demands for electricity and other forms of energy.

Decommissioning/Reclamation

As with construction, the Project would likely use diesel generator power for temporary portable construction trailer(s), and construction and decommissioning work where on-site electrical lines are not available. Use of either propane or diesel fuel would occur for a limited duration during Project decommissioning/reclamation and would be used in an efficient and non-wasteful manner. As no electric infrastructure is expected to be in place to accommodate decommissioning/reclamation activities, the proposed Project would not impose demands on peak and base period demands for electricity. Diesel is a readily available fuel source. Therefore, the proposed Project, whether decommissioned/reclaimed at one time under the Full Build-out Scenario or by each CUP Area under the Phased Build-out, Scenario would result in a **less than significant impact** on peak and base period demands for electricity and other forms of energy.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Conflict with or Obstruct State or Local Plan - Compliance with Existing Energy Standards

Impact 4.14.4 Implementation of the Full Build-out Scenario or the Phased CUP Scenario would comply with existing energy standards. The Project would result in production of renewable solar energy that would help the State of California meet its goals for use and production of alternative renewable energy sources. Therefore, the Project's impact on compliance with existing energy standards would be **less than significant**.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

The proposed Project is not subject to any adopted energy conservation plans, and thus would not conflict with existing energy standards. Any new electrical equipment installed for the proposed Project would be required to comply with established energy standards.

Compliance with State RPS Requirements

As discussed above, California's RPS, requires independently operated utilities and certain other electricity service providers to increase the percentage of renewable energy to 33 percent by 2020 and to 50 percent by 2030. Eligibility for the California RPS is primarily contingent on a facility's fuel source and its location. Renewable facilities that are located in California or have first point of interconnection to the electrical transmission system within the state are considered RPS eligible as long as the facility meets the fuel and technology-related requirements. The proposed Project is a solar energy generation and storage facility which would be eligible to be considered as an RPS source.

Energy would be consumed throughout the construction and operation of the proposed Project. Implementation of the proposed Project would result in a contribution of approximately 100 MW of renewable energy to California's energy supply, which would be a beneficial contribution toward meeting the RPS goals. Therefore, impacts related to compliance with existing energy standards, including California's RPS, would be **less than significant**.

General Plan Consistency

The Imperial County General Plan Overview states "The general plan seeks to direct growth, particularly urban development, to areas where public infrastructure exists or can be provided, where public health and safety hazards are limited, and where impacts to the County's abundant natural, cultural, and economic resources can be avoided. This directive nature of the general plan is needed in order to provide for the preservation and conservation of adequate scenic, recreational, and wildlife habitat open space, agricultural areas, mineral resources, and the air and water quality of the County" (Imperial County, 1997, p. 1).

The County's General Plan includes goals and objectives that are focused on improving the sustainability of the community, including those contained in the Renewable Energy and Transmission Element. These goals and objectives encourage development of renewable and alternative energy sources to support the County's economy and energy needs.

Goal 1 of the General Plan Conservation and Open Space Element (Imperial County 2016a), regarding conservation of environmental resources for future generations, directs that environmental resources shall be conserved for future generations by minimizing environmental impacts in all land use decisions. As a solar energy generation and storage facility, the proposed Project would protect environmental resources through the generation of approximately 100 MW of renewable energy that would otherwise be generated by non-renewable fossil fuels. Further, the Project site is located on active agricultural land, and would be required to reclaim the acreage for future agricultural use at the end of each CUP or 30 years, whichever is later. Therefore, the proposed Project is consistent with this goal.

Conservation and Open Space Element Objective 1.4 further expands upon Goal 1 ensuring the conservation, development and utilization of the County's natural resources. The Project is proposed to be developed on the disturbed soils of agricultural lands and therefore will not impact fragile desert habitats. In addition, the Project's configuration would be consistent with applicable regulations, Applicant-Proposed Measures (refer to Table 2.0-6 in Chapter 2.0, Project Description), and Project-specific mitigation measures designed to protect biological resources and water quality. The proposed

Project would provide a beneficial use of the land by creating local jobs during construction and to a lesser degree during operation. The proposed Project would also result in only a temporary conversion of agricultural lands with the required restoration of the solar field site parcels back to agricultural uses at the end of the Project's operational life thus assuring the conservation of valuable agricultural soils. During the life of the Project, the County's immense solar resource would be used for generation of clean electrical energy thus conserving air quality resources that would otherwise be polluted from fossil fuel emissions necessary to develop 100 MW of power. Therefore, the proposed Project is consistent with this objective.

Conservation and Open Space Element Objective 8.2 encourages focusing all new renewable energy development within adopted Renewable Energy Overlay Zones. Consistent with this objective, the Applicant has submitted an application for Amendment (GPA#17-0006) to the Imperial County General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site as well as a Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project Site. With approval of the GPA and ZC, the proposed Project will be consistent with this objective.

The Project site was chosen based on proximity to existing IID transmission lines and similar previously-approved solar projects. The Project proposes limiting Vehicle Miles Traveled (VMT) related to the construction, operation, and decommissioning of Gen-Tie lines by co-locating its Gen-Tie line with the nearby Centinela Solar Project.

Based upon these considerations, the Project, under both the Full Build-out Scenario and Phased CUP Scenario will have a **less than significant** impact on compliance with existing energy standards.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Energy Consumption - Effects on Energy Sources

Impact 4.14.5 Project implementation under the Full Build-out Scenario or the Phased CUP Scenario would not have an adverse effect on energy resources. The Project would create a new source of renewable energy resources. Therefore, the Project's effect on energy resources would be **less than significant**.

FULL BUILD-OUT SCENARIO/PHASED CUP SCENARIO

Construction

As described under Impact 4.14.1 and Impact 4.14.2, construction of the proposed Project would require a one-time expenditure of non-renewable fossil fuels (diesel and gasoline). However, the Project will have a less than significant effect on energy resources based its size (762.8 net acres), the limited duration of construction (18 months under the Full Build-out Scenario or at approximately seven months per CUP Area over 10 years under the Phased CUP Scenario), and the availability of diesel fuel and gasoline. Moreover, the Project, whether constructed under the Full Build-out Scenario or the Phased CUP Scenario, would implement energy efficiency measures during construction including use of alternative fueled or catalyst equipped diesel construction equipment, minimizing idling time, etc. All of these measures would serve to reduce energy use, whether fossil-fuel use or otherwise. Thus, construction under both the Full Build-out Scenario and Phased Buildout Scenario would have a **less than significant** impact energy resources.

Operation

As previously discussed under Impact 4.14.1, operational energy use for each typical CUP Area was estimated at 687 MWh/year and at 1449.78 MWh/year under the Full Build-out Scenario. The Project will generate its own power supply during the day and require minimal energy in the evening hours and at night. Annual energy production from the completed 100 MW Full Build-out Scenario would likely be approximately 306,000 MWh[1]. In contrast, upon build-out of the entire Project Site (Full Build-out Scenario), this represents approximately 0.5 percent ([1449.78 MWh ÷ 306,000 MWh[1]] x 100 = 0.5) of the Full Build-out Scenario's MWh. Further, energy use by a typical CUP Area represents approximately 0.000048 percent ([687 ÷ 1,419,155,125] x 100 = 0.000048) of Imperial County's 2016 energy use (1,419,155,125 MWh); the Full Build-out Scenario represents 0.00010 percent. Based on this information, both the Full Build-out Scenario and the Phased CUP Scenario would result in an overall increase to the State's renewable energy supply and beneficially contribute to IID local energy supplies. Therefore, impacts to energy resources are considered **less than significant** during operation of both the Full Buildout Scenario and the Phased CUP Scenario.

Decommissioning/Reclamation

As with construction, the Project would require temporary non-electrical use of energy including diesel, and gasoline. Use of these fuels would occur for a limited duration during Project decommissioning/reclamation. Propane, diesel and gasoline are readily available fuel sources that would be necessary in order to decommission and restore the solar field site parcels to pre-Project conditions. Therefore, the proposed Project, whether decommissioned/reclaimed under the Full Build-out Scenario or the Phased CUP Scenario, would result in a **less than significant impact** on energy resources.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

Energy Consumption - Transportation Energy Use

Impact 4.14.6 Implementation of the Full Build-out Scenario or Phased CUP Scenario will generate minimal traffic during the operational phase. The Applicant will implement strategies to minimize transportation energy use and ensure overall use of efficient transportation alternatives, as appropriate. Therefore, the Project's impact on transportation energy would be **less than significant**.

Construction

Transportation energy use is related to the following factors: the efficiency of automobiles, trucks, off-road equipment, and other mobile transportation; the choice of employee travel mode (automobile, carpool, or public transit); and miles traveled for each mode. Energy would also be consumed by construction equipment used under both the Full Build-out Scenario and the Phased CUP Scenario.

As described under Impact 4.14.1, above, Project construction activities represent a necessary, one-time expenditure of non-renewable energy in order to achieve a new source of renewable solar energy that would generate electricity for approximately 30 years, the associated energy use is not considered wasteful. Construction energy expenditures would occur for a limited duration (e.g. 18-months for the Full Build-out Scenario) and would be minimized through implementation of standard mitigation measures identified to reduce amount of energy used for the projects (i.e. use of alternative fueled or catalyst equipped diesel construction equipment; minimize idling time; replace fossil-fueled equipment

with electrically driven equivalents). Energy can be saved through worker carpooling. The Applicant has indicated that worker carpooling will be encouraged during construction by hanging posters and having voluntary sign-up sheets available at the Project site and discussing carpooling at morning tailgate meetings and other team gatherings. Therefore, construction transportation and equipment energy impacts would be **less than significant** under both the Full Build-out Scenario and by each CUP Area as proposed under the Phased CUP Scenario.

Operation

Transportation energy would be consumed in association with routine operation activities required under both the Full Build-out Scenario and Phased CUP Scenario. Based on the small number of employees (six full-time) needed to operate the facility, transportation energy use would not be substantial and the implementation of transportation alternatives would not be practical or impactful on the environment. In addition, standard mitigations including use of alternative fueled or catalyst equipped diesel construction equipment; minimizing idling time; and replacing fossil-fueled equipment with electrically driven equivalents would also be applicable during Project operation and maintenance. For these reasons, operational transportation energy impacts would be **less than significant** under both the Full Build-out Scenario and Phased CUP Scenario.

Decommissioning/Reclamation

As with construction, transportation energy would be expended in association with worker and equipment trips as well as equipment use. Decommissioning/reclamation under both the Full Build-out Scenario and Phased CUP Scenario would require energy in the form of gasoline and diesel fuel for worker vehicles, equipment and water for controlling dust. These activities would be carried out as efficiently as possible by minimizing idling time, either by shutting equipment off when not in use or reducing the time of idling to five minutes at a maximum. Where possible, replacement of fossil-fueled equipment with electrically driven equivalents (assuming powered by a portable generator set and are available, cost effective, and capable of performing the task in an effective, timely manner) would also be used to reduce the use of diesel and gasoline. The Applicant has indicated worker carpooling will also be encouraged during decommissioning/reclamation activities.

The use of these diesel fuel and gasoline as part of Project decommissioning/reclamation is not considered a wasteful use of energy resources because these activities represent an efficient and necessary use of energy. Decommissioning/reclamation under the Full Build-out Scenario or Phased CUP Scenario would be a necessary, one-time expenditure of non-renewable energy in order to implement the Reclamation Plan and restore the solar field site parcels to pre-project soil conditions. Therefore, decommissioning transportation energy impacts would be **less than significant** under both the Full Build-out Scenario and the Phased Buildout Scenario.

Mitigation Measures

None required.

Significance After Mitigation

Not applicable.

CHAPTER 5.0
ALTERNATIVES

CEQA Guidelines Section 15126.6(a) states that an environmental impact report shall describe and analyze a range of reasonable alternatives to a project. These alternatives should feasibly attain most of the basic objectives of the project while avoiding or substantially lessening one or more of the significant environmental impacts of the project. An EIR need not consider every conceivable alternative to a project, nor is it required to consider alternatives that are infeasible. The discussion of alternatives shall focus on those which are capable of avoiding or substantially lessening any significant effects of the project, even if they impede the attainment of the project objectives to some degree or would be more costly (CEQA Guidelines Section 15126.6(b)).

CEQA Guidelines Section 15126.6(d) states that the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. The matrix appears as **Table 5.0-1** at the end of this section.

5.1 PROJECT OBJECTIVES

A primary objective of the Drew Solar Project is to develop a solar energy generating and energy storage facility that will produce public benefits for Imperial County, the Southern California Region, and the State of California. The following is a list of key public benefits that are fundamental to the Project's objectives:

- To create significant lease revenue for Imperial Irrigation District ("IID") as the property owner, a public agency, which will benefit the citizens of Imperial County.
- To support the Imperial County General Plan renewable energy policies and objectives.
- To locate the Project at a location along the existing transmission system which has available capacity to deliver electricity to major load centers in California.
- To meet the terms and requirements of any Power Purchase Agreement (PPA) and Large Generator Interconnection Agreement ("LGIA") that the Applicant has or may enter into and that require it to be interconnected directly to the CAISO grid at the existing Drew Switchyard.
- To deploy a technology that is safe, readily available, efficient, and environmentally responsible.
- To generate power, and store energy in an efficient manner and at a cost that is competitive in the renewable market on sites controlled by the applicant.
- To provide an additional source of renewable energy to assist the State of California in achieving and exceeding the RPS.
- To maximize local construction jobs for a variety of trades thereby helping maximize the reduction of unemployment in the construction sector.
- To locate the Project in an area that ranks among the highest in solar resource potential in the nation, as measured by the CEC.
- To minimize potential impacts to aesthetics, health and safety and other potential environmental impacts:

  o Locating the Project on disturbed land.

- Grouping or collocating the Project's proposed electrical interconnection facilities with existing or proposed electrical interconnection facilities (consistent with County conditions on similar solar generation projects), to the extent that such grouping/collocation can be accommodated.
- Utilizing existing infrastructure (switchyards, transmission lines, roads, and water sources) where feasible to locate the project proximate to existing electric interconnection and transmission systems in Imperial County with capacity to deliver electricity to major load centers in California.

- To diversify Imperial County's economic base.
- To provide tax revenue through sales, use and property taxes generated by development within Imperial County.

5.2 ALTERNATIVES CONSIDERED BUT NOT SELECTED FOR ANALYSIS

The identification of a reasonable range of alternatives for analysis in the DEIR was informed by the Project proposal, the key Project objectives, and the criteria identified in the CEQA Guidelines section 15126.6. the key Project objectives are discussed above. CEQA Guidelines section 15125.6(a) provides that an EIR "shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives which are infeasible." CEQA Guidelines section 15125.6(c) further provides that "[a]mong the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts." CEQA and the CEQA Guidelines define "feasible" as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors. (Public Resources Code Section 21061.1; CEQA Guidelines, Section 15364).

The proposed Project site is currently designated "Agriculture" in the Imperial County General Plan and currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural). Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as uses in the A-2 designation with a Conditional Use Permit (CUP).

Both on-site and off-site alternatives were considered during the EIR scoping phase. Alternative sites were screened in accordance with CEQA Guidelines section 15126.6(f) on the basis of whether selection of the site would avoid or substantially lessen the Project's potentially significant impacts, feasibility, and consistency with County planning documents. Based on the nature of the Project, factors considered in determining technological feasibility included the availability of: 1) an area with access to high solar insolation rates (i.e. exposure to the sun's rays); 2) a large area to accommodate solar collectors; and 3) readily accessible interconnection to the California Independent System Operator (CAISO)-operated transmission system to send electricity to consumers; and) potential for co-location of transmission infrastructure.

Considerable efforts were undertaken to avoid impacts to agricultural land, cultural resources, and biological resources. West-central Imperial County has year-round, unobstructed access to sunlight during daytime hours. The area surrounding the Imperial Valley Substation was searched for a site with the least impacts.

5.2.1 CENTINELA STATE PRISON LAND ALTERNATIVE

The Centinela State Prison Land Alternative included 860 acres owned by the State of California and is part of the Centinela State Prison (**Figure 5.0-1A and Figure 5.0-1B**). This site was previously farmed but had been fallow for decades. The site had also been ripped, disked, and devoid of vegetation. A 40-acre portion of the site is owned by the federal government and managed by the Bureau of Land Management. This portion was identified as a Development Focus Area in the Desert Renewable Energy Conservation Plan. In order to connect a solar energy generating facility on this site to the Dunaway Switchyard, a 1.5-mile gen-tie would have had to be constructed over undisturbed land.

The Applicant was unable to acquire, control, or gain access to the site because the State of California rejected the proposal and declined to allow the land to be utilized for the Project's solar energy production. Accordingly, the Centinela State Prison Land Alternative was eliminated during the scoping state on the basis of feasibility.

5.2.2 DESERT LAND ALTERNATIVE

This Alternative examined other areas of land near the Centinela State Prison on desert land. However, desert land has a significant number of cultural resources and sensitive biological resources. Further, this land is part of the Yuha Desert Area of Critical Environmental Concern. For these reasons, the Desert Land Alternative was rejected and not pursued as a viable alternative.

5.2.3 SALTON SEA ALTERNATIVE

This Alternative examined other areas along the exposed playa of the Salton Sea which falls within the Renewable Energy Overlay Zone (**Figure 5.0-1C**). However, the corrosive and wet soil that was subject to liquefaction made the Project infeasible at this location. For these reasons, the Salton Sea Land Alternative was rejected and not pursued as a viable alternative.

5.2.4 DISTRIBUTED GENERATION ALTERNATIVE

A Distributed Generation Alternative to the proposed Project was considered but not selected for detailed analysis because it would not advance the majority of the key Project objectives. A distributed PV generation alternative would consist of small-scale PV installations on private or publicly-owned residential, commercial, or industrial building rooftops, parking lots or areas adjacent to existing structures such as substations. The location of such small-scale installations is not geographically constrained and, as relevant for CEQA purposes, could be located anywhere in the State. Governor Brown established a goal of adding 12,000 MW of renewable distributed generation by 2020. As of December 31, 2017, more than 11,700 MW of distributed generation capacity was operating or installed in California with an additional 340 MW pending. Preliminary data reported through the first four months of 2018 indicate that California is on track to exceed the 12,000 MW distributed generation goal ahead of schedule (CEC 2018).

Assuming that there are enough additional sites throughout California for installation of sufficient distributed PV to accomplish the Project's objective of generating 100 MW, the Distributed Generation Alternative cannot feasibly accomplish most of the Project's objectives. Such an alternative would not comply with the terms and requirements of the Project's long-term Power Purchase Agreements (PPAs). Likewise, a distributed generation alternative could not locate the solar energy generating facilities as near as possible to SDG&E's electrical transmission facilities with anticipated capacity availability and a reserved queue position.

Because distributed generation is not geographically constrained, there is no guarantee that any portion of the solar installation would occur in Imperial County. Furthermore, the County has no authority or influence over the installation of distributed PV generation systems outside of its jurisdiction. As such,

Source: Drew Solar 2018c.

FIGURE 5.0-1A
CENTINELA STATE PRISON LAND ALTERNATIVE

Source: Drew Solar 2018c.

FIGURE 5.0-1B
CENTINELA STATE PRISON LAND ALTERNATIVE

there is no guarantee that action by the County to approve a distributed generation alternative would 1) result in the installation of 100 MW of generating capacity; 2) support the objective of assisting the State of California to meet to its RPS goals; or 3) create additional construction employment and Project-related expenditures in local businesses. Furthermore, such an alternative would not comply with the terms and requirements of the Project's long-term Power Purchase Agreement(s) (PPAs). For these reasons, a distributed solar alternative was not considered for further analysis.

5.3 SUMMARY OF ALTERNATIVES ANALYZED

In accordance with the provisions of CEQA Guidelines Section 15126.6, the following alternatives were selected for analysis.

5.3.1 ALTERNATIVE 1 – REDUCED PRIME FARMLAND ALTERNATIVE

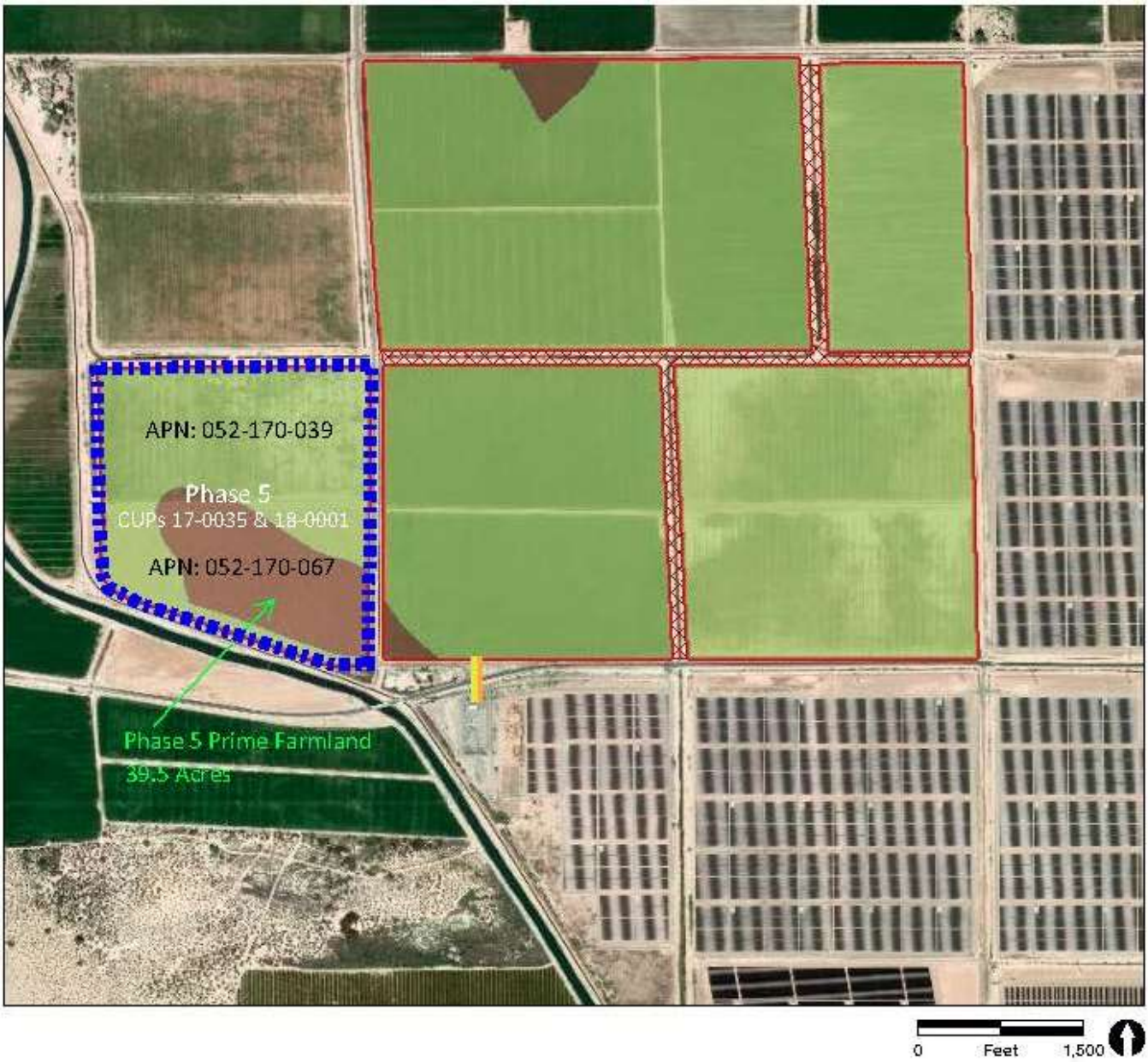
The Reduced Prime Farmland Alternative would exclude the portion of the proposed Project west of Drew Road within CUP#17-0035 and CUP#18-0001 that is Prime Farmland (**Figure 5.0-2**). This alternative would eliminate 39.5 acres of Prime Farmland from being developed with a solar field and energy storage as a component of solar. The Reduced Prime Farmland Alternative would require the same number of solar arrays to be constructed on a smaller footprint, increasing the site density. Placing solar panels at a greater density would increase shading and reduce the solar generation potential of the site by 10 to 40 percent. Shading the solar panels would waste a significant amount of potential energy that could be produced from each module.

5.3.2 ALTERNATIVE 2 – NO PROJECT ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(1) requires that a No Project Alternative be analyzed in order to allow the decision-makers to compare the impacts of approving a proposed Project with the impacts of not approving the proposed Project. Under the No Project Alternative, the proposed Drew Solar Project would not be developed. No GPA, Zone Change, CUPs, Variance, Parcel Map, Lot Tie Agreements or Development Agreement would be approved and the Project site would retain its current land use designation and zoning. The Project site is currently designated "Agriculture" in the Imperial County General Plan and is currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural), and could be developed consistent with the land use designation and zoning. Alternatively, the Project site could remain in its existing condition as flat crops.

5.4 ANALYSIS OF ALTERNATIVES

This section identifies the environmental effects of the alternatives and compares the environmental effects with those resulting from the proposed Project. **Table 5.0-1** at the end of this section provides a summary of the comparisons. An "environmentally superior" alternative is also identified.



Source: Drew Solar 2018c.

FIGURE 5.0-2
REDUCED PRIME FARMLAND ALTERNATIVE

5.4.1 ALTERNATIVE 1 - REDUCED PRIME FARMLAND ALTERNATIVE

Alternative 1 is the Reduced Prime Farmland Alternative. This alternative would exclude the portion of the proposed Project west of Drew Road (CUP#17-0035 & CUP#18-0001) and would reduce potential impacts to Prime Farmland. This alternative avoids 39.5-acres of Prime Farmland (**Figure 5.0-2**).

This discussion analyzes the impacts of this alternative by projecting what can reasonably be expected to occur in the foreseeable future if the Project were implemented with the Reduced Prime Farmland Alternative as compared to the proposed Project.

Characteristics

Under the Reduced Prime Farmland Alternative, the Drew Solar Project would be constructed with all the same features as the proposed Project with the exception that 39.5 acres of Prime Farmland would be avoided. As a result, this alternative would require the same number of solar arrays to be constructed on a smaller foot print, increasing the site density. Placing solar panels at a greater density would increase shading and would reduce the solar generation potential of the site by 10 to 40 percent. The Project would require approval of: General Plan Amendment (GPA#17-0006); Zone Change (ZC#17-0007); Variance (V# 17-0003); five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating and energy storage systems, and one CUP#18-0001 to develop energy storage as a component of solar on lands currently zoned A-2, A-2-R and A-3; Parcel Map (PM#02478); Lot Tie Agreement(s); and a Development Agreement.

Under this Alternative, at the end of the Project's operational life, the solar energy generating and energy storage facility would be decommissioned, removed and reclaimed to approximate the existing agricultural land currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural) in the County's Land Use Ordinance and designated Agriculture in the County's General Plan.

Relationship to Project Objectives

Implementation of the Reduced Prime Farmland Alternative would result a reduction in conversion of Prime Farmland by reducing the size of the Project on CUPs 17-0035 and 18-0001. Implementation of the Reduced Prime Farmland Alternative would advance the Project's objectives to construct and operate solar power and energy storage facilities with less potential impacts to the environment by avoiding approximately 39.5 acres of Prime Farmland. However, because this alternative does not maximize the site's solar generation capabilities by optimally spacing the solar arrays, it does not represent the most efficient use of agricultural land for the purpose of renewable energy generation. Additionally, the Reduced Prime Farmland Alternative would not meet the following key objectives to the same degree as the proposed Project because it would restrain the maximum generating capacity of the site:

- To support the Imperial County General Plan renewable energy policies and objectives
- To deploy a technology that is safe, readily available, efficient, and environmentally responsible.
- To provide an additional source of renewable energy to assist the State of California in achieving and exceeding the RPS.
- To locate the Project in an area that ranks amount the highest in solar resource potential in the nation, as measured by the CEC.
- To minimize potential impacts to aesthetics, health and safety and other potential environmental impacts.
- To diversify Imperial County's economic base.

- To provide tax revenue through sales, use and property taxes generated by development within Imperial County.

Therefore, the Reduced Prime Farmland Alternative would not achieve as many objectives as the proposed Project.

Comparative Impacts

Aesthetics

Under the Reduced Prime Farmland Alternative, the aesthetic condition of the Project site would be altered in association with development of solar energy generating facilities and energy storage as a component of solar (i.e. battery storage containers or building). However, CUP#15-0035 and CUP#18-0001 would occupy approximately 39.5 less acres and development on APN 052-170-067-000 would be set-back from Mandrapa Road and Drew Road in association with avoidance of prime farmland. As with the proposed Project, the Reduced Prime Farmland Alternative would have similar less than significant impacts on a scenic vista and degradation of the visual quality of the site and its surroundings. As development would be set-back further from Mandrapa Road and Drew Road to avoid prime farmland, security lighting would be less visible than under this Alternative compared to the proposed Project. Therefore, potential impacts to aesthetics, including light and glare would be slightly less for the Reduced Prime Farmland Alternative compared to the proposed Project.

Land Use

The Project Area has an existing General Plan land use designation of "Agriculture" and a zoning designation of A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3. Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission and storage of energy are allowed as conditional uses in the A-2, A-2-R and A-3 zones. Similar to the proposed Project, the Reduced Prime Farmland Alternative would require approval of: General Plan Amendment (GPA#17-0006); Zone Change (ZC#17-0007); Variance (V#17-0003); a total of five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating and energy storage systems; and one CUP#18-0001 to develop energy storage as a component of solar on lands currently zoned A-2, A-2-R and A-3; Parcel Map (PM#02478); Lot Tie Agreement(s); and a Development Agreement.

Under the Reduced Prime Farmland Alternative, 39.5 acres of prime farmland would be avoided primarily on APN 052-170-067-000 thereby reducing the size of the solar field and energy storage as a component of solar proposed for this portion of the Project. The reduction in size would not result in any land use conflicts or issues with General Plan Policies. Therefore, impacts would be less than significant and similar for both the Reduced Prime Farmland Alternative and the proposed Project.

Transportation

Despite a slight reduction in the amount of acreage that would be developed (39.5 acres), short-term construction-related traffic generated by the Reduced Prime Farmland Alternative would increase similar to the proposed Project. Long-term increases in vehicle traffic related to operation and maintenance would be similar for both the Reduced Prime Farmland Alternative and the proposed Project under all traffic scenarios modeled (Existing Year 2017; Near-Term Year 2019; Long-Term (Year 2027). Similar to the proposed Project, the Reduced Prime Farmland Alternative includes the same access points, including a primary access off of Drew Road north of Mandrapa Road (refer to Figure 2.0-3 in Chapter 2.0, Project Description). Under both this alternative and the proposed Project, no hazards due to a design feature would occur. Roadway damage attributed to construction traffic would likely be similar as many of the same roads would be used for both the Reduced Prime Farmland Alternative and the proposed Project.

Overall, potential impacts related to roadway Level of Service standards, hazardous design features, roadway damage, and cumulative impacts to intersections, roadway segments and freeway segments would be similar for both the Reduced Prime Farmland Alternative and the proposed Project.

Air Quality

Under the Reduced Prime Farmland Alternative, short-term construction-related air quality impacts would be slightly less than those of the proposed Project because of the reduction in amount of land developed associated with avoiding 39.5 acres of prime farmland. A slight reduction in combustion emissions and dust (including NO_X and PM_{10}) would be anticipated because less acreage would be disturbed. Because prime farmland within the boundaries of CUP#15-0035 and CUP#18-0001 would be avoided, construction would be set-back further from the closest single-family residence located immediately west of the intersection of Drew Road and SR 98. Diesel equipment could create temporary adverse odors during construction for both the Reduced Prime Farmland Alternative and the proposed Project. However, the odors would be temporary and no sensitive receptors would be impacted.

Overall, potential impacts related to air quality plans and standards, sensitive receptors and objectionable odors, would be less than significant and but greater for the Reduced Prime Farmland Alternative compared to the proposed Project. Potential impacts related to violating an air quality standard and cumulative violations of an air quality standard would be less for the Reduced Prime Farmland Alternative compared to the proposed Project based on 39.5 fewer acres being disturbed as a result of avoiding prime farmland.

Greenhouse Gases

Under the Reduced Prime Farmland Alternative, short-term construction-related greenhouse gas/climate impacts are anticipated to be similar to, though slightly less than, the proposed Project due to the reduction in acreage associated with avoidance of 39.5 acres of prime farmland. Because this acreage would not be developed, equipment would be operating/emitting GHGs for a shorter period of time in association with less acreage disturbed. GHG emissions during operation and maintenance of the Reduced Prime Farmland Alternative are expected to be greater compared to those generated by the proposed Project as 39.5 acres of Prime Farmland would still be farmed requiring farm equipment and associated emissions. GHG's generated during construction and reclamation activities would be less than significant and no impact would occur with regard to conflicting with an applicable plan, policy or regulation adopted to reduce GHG emissions for both the proposed Project and the Reduced Prime Farmland Alternative.

Geology and Soils

Under the Reduced Prime Farmland Alternative, approximately 39.5 acres of prime farmland primarily within the boundaries of APN 052-170-067. A State of California, Alquist-Priolo Earthquake Fault Zone extends into this APN (refer to Figure 4.6-2 in Section 4.6, Geology and Soils). This is an unnamed fault that was mapped after the 7.2 Mw El Mayor-Cucapah Earthquake (LandMark 2018, p. 6). Avoidance of prime farmland would also provide greater set-back of solar development from this fault. Due to the reduction in prime farmland acreage, the Reduced Prime Farmland Alternative would result in less solar structures being exposed to geologic and seismic hazards (strong seismic ground shaking, liquefaction, soil erosion, expansive soils, soil capability to support on-site wastewater treatment; and soil corrosivity) compared to the proposed Project. Less soil disturbance and excavation on 39.5 fewer acres also would result in less potential to impact previously unknown paleontological resources, if present. Overall, geology and soils impacts (including impacts to previously unknown paleontological resources) for the Reduced Prime Farmland Alternative would be less compared to the proposed Project.

Cultural Resources & Tribal Cultural Resources

Under the Reduced Prime Farmland Alternative, potential to disturb historical resources and unanticipated archaeological resources (prehistoric isolates) would be less than would occur under the proposed Project due to the avoidance of 39.5 acres of prime farmland primarily with APN 052-170-067. No specific resources were identified within this APN. However, unanticipated archaeological resources, and previously unknown subsurface human remains may be discovered during construction. Mitigation measures have been identified to address these impacts. Because 39.5 acres of prime farmland would be avoided (i.e. not developed) in association with the Reduced Prime Farmland Alternative, impacts to historical resources, unanticipated archaeological resources, previously unknown subsurface human remains and tribal cultural resources would be slightly less compared to the proposed Project.

Noise

Avoiding 39.5 acres of prime farmland would result in less construction, operation and decommissioning noise primarily on APN 052-170-067. No noise levels standards would be exceeded in association with construction, operation and decommissioning of both the proposed Project and the same is true for the Reduced Prime Farmland Alternative. However, avoiding the 39.5 acres would provide a greater set-back from the nearest sensitive receptor immediately west of the intersection of Drew Road and SR 98 (approximately 100 feet from Project site; a bee company operates out of this location). Therefore, noise level increases as sensitive receptors would be less in association with the Reduced Prime Farmland Alternative compared to the proposed Project.

Agricultural Resources

The greatest amount of prime farmland (39.5 acres) within the overall Project site (total of 48.3 acres) is within the boundaries of APN 052-170-067 on which CUP 17-0035 and 18-0001 are proposed. The Reduced Prime Farmland Alternative would avoid and thereby preserve 39.5 acres of prime farmland that would otherwise be developed with solar facilities as part of the proposed Project. The same amount of farmland of local importance (155.2 acres) and farmland of statewide importance (559.3 acres) would be developed in association with both the Reduced Prime Farmland Alternative and the proposed Project. However, compared to the proposed Project, the Reduced Prime Farmland Alternative would result in conversion of less acreage of prime farmland as well as the need for mitigation to offset impacts to prime farmland. Overall, impacts to agricultural resources, specifically with regard to prime farmland, would be less for the Reduced Prime Farmland Alternative compared to the proposed Project.

Hazards and Hazardous Materials

Risks associated with site hazards, including construction activities and conditions (e.g., soil disturbance, use of hazardous materials associated with construction activities), and operational activities (e.g., transport, use and storage of fuel and herbicides) are anticipated to be less than significant and similar for both the Reduced Prime Farmland Alternative and the proposed Project. Avoiding approximately 39.5 acres of prime farmland as part of the Reduced Prime Farmland Alternative would result in slightly less need for transport, use, disposal and accidental release of hazardous materials used during construction, operation and decommissioning. Hazard through risk of upset or release of hazardous materials is not an issue at the Project site. Thus, less than significant, similar impacts, would result for both the Reduced Prime Farmland Alternative and the proposed Project.

Hydrology and Water Quality

Under the Reduced Prime Farmland Alternative, impacts associated with a violation of water quality standards or waste discharge requirements would be less than significant similar to the proposed Project. Under the Reduced Prime Farmland Alternative, 39.5 acres of Prime Farmland would be avoided. This

acreage is primarily within the boundaries of APN 052-170-067 on which CUP#17-0035 and CUP#18-0001 are proposed. However, the avoidance of Prime Farmland not result in any change in on- or off-site flooding or create or contribute runoff exceeding capacity. Both the Reduced Prime Farmland Alternative and the proposed Project would maintain existing drainage patterns and the Project site would remain largely impervious. Compliance with provisions of the Construction General Stormwater Permit and Stormwater Pollution Prevention Plan would be applicable to both the Reduced Prime Farmland Alternative and the proposed Project such that erosion or on- or off-site siltation would be less than significant.

Overall potential impacts for the Reduced Prime Farmland Alternative depletion of groundwater supplies or interference with groundwater recharge; substantial erosion or siltation on- or off-site; or placement of people or structures within an area subject to flood hazards would be less than significant and similar to the proposed Project.

Biological Resources

Under the Reduced Prime Farmland Alternative, 39.5 acres of prime farmland within the boundaries of APN 052-170-067 would be avoided. The entire vegetation community within this area is identified as Agriculture which provides suitable habitat for burrowing owl. At the time of the Project site surveys, no burrowing owls were observed nor were any burrows identified within the boundaries of APN 052-170-067 (i.e. CUP#17-0035 and CUP#18-0001). However, owls could be present at the time pre-construction surveys are conducted. Avoiding 39.5 acres of prime farmland could result in avoiding owls and burrows if present at the time of construction. However, this cannot be determined at this time. Therefore, impacts to burrowing owls are considered potentially significant and similar for both the Reduced Prime Farmland Alternative and the proposed Project.

Suitable habitat for California Black Rail and Yuma Ridgeway's Rail is present within irrigation ditches located within the boundaries of the Project site. Thus, impacts with regard to California Black Rail and Yuma Ridgeway's Rail would be similar for both the Reduced Prime Farmland Alternative and the proposed Project.

The Project site contains Arrow Weed Thickets and Cattail Marshes Alliance. However, neither of these species is within the 39.5 acres of prime farmland that would be avoided under the Reduced Prime Farmland Alternative. Thus, impacts to Arrow Weed Thickets and Cattail Marshes Alliance would be similar for both the Reduced Prime Farmland Alternative and the proposed Project.

Jurisdictional Resources are located throughout the Project site. The nearest ditch is to the east of CUP 17-0035 and CUP 18-0001 outside the 39.5 acres of prime farmland that would be avoided as part of the Reduced Prime Farmland Alternative. However, development of CUP#17-0031 could still impact habitat in these ditches. Thus, impacts to wetlands/jurisdictional resources would be similar for both the Reduced Prime Farmland Alternative and the proposed Project.

No impacts to wildlife corridors/habitat linkage would occur in association with either the Reduced Prime Farmland Alternative or the proposed Project. Thus, impacts with regard to wildlife corridors/habitat linkage are similar for both the Reduced Prime Farmland Alternative and the proposed Project

Public Services and Utilities

The Reduced Prime Farmland Alternative would result in public services impacts similar to the proposed Project. Specifically, under both the Reduced Prime Farmland Alternative and proposed Project, a similar increase in the demand for fire services and law enforcement services would occur because under both the Reduced Prime Farmland Alternative and the proposed Project, similar activities, structures, and infrastructure are proposed. Reducing the amount of prime farmland by 39.5 acres while reducing the

overall acreage of the Project would not lessen demand for fire protection or law enforcement as compared to the proposed Project.

Both the Reduced Prime Farmland Alternative and the proposed Project would rely on water from the IID for construction and operational water. The Reduced Prime Farmland Alternative may have an O&M Building Complex with on-site water treatment facilities similar to the proposed Project. Water demand for construction and operation would be less if the Reduced Prime Farmland Alternative is implemented because 39.5 fewer acres would be developed as part of CUP#17-0035 and CUP#18-0001. This reduction in acreage would result in less demand water for dust control during construction and potentially fewer panels to wash during operation. The IID Canal system and water entitlements are adequate to meet the proposed water demands and the Project would not cause a need to expand water entitlements. While water entitlements would not be affected by the Reduced Prime Farmland Alternative, water demand would be greater as compared to the proposed Project as 39.5 acres of prime farmland would continue to be farmed.

With 39.5 fewer acres developed under the Reduced Prime Farmland Alternative, less impervious surfaces would be introduced to APN 052-170-067. While groundwater recharge would not be adversely affected if the proposed Project was implemented, the Reduced Prime Farmland Alternative would allow slightly more surface for groundwater recharge as compared to the proposed Project.

Avoidance of 39.5 acres of prime farmland would reduce the amount of developable acreage for CUP 17-0035 and CUP 18-0001, including area for development of an O&M Building and supporting facilities. However, soils throughout the Project site are suitable to support septic systems and leach fields. Thus, if an O&M Building is constructed on CUP#17-0035 and/or CUP#18-0001, despite the reduction in acreage, soils would be able to support an on-site wastewater treatment system. Wastewater impacts would be less than significant for both the Reduced Farmland Alternative and the proposed Project.

Avoiding 39.5 acres of prime farmland would slightly reduce the amount of solid waste generated by the Project and the associated amount of landfill capacity required to accommodate the construction and operational waste. Impacts to solid waste and land fill capacity would be less than significant for both the Reduced Prime Farmland Alternative and the proposed Project.

Electrical service would be required from IID for both the Reduced Prime Farmland Alternative and the proposed Project. Avoiding 39.5 acres of prime farmland would not change the need to construct the two proposed Gen-Tie lines and associated infrastructure to connect to the Drew Switchyard. Impacts to electrical service would be less significant for both the Reduced Prime Farmland Alternative and the proposed Project.

Telephone and internet service would be required from AT&T for both the Reduced Prime Farmland Alternative and the proposed Project. Avoiding 39.5 acres of Prime Farmland would not change the need for telephone and internet service at the Project site. Impacts to telephone and internet service would be less significant for both the Reduced Prime Farmland Alternative and the proposed Project.

Energy

Energy would be required as part of construction, operation and decommissioning of both the Reduced Prime Farmland Alternative and the proposed Project in the form of fuel associated with worker commutes and equipment operation. The Reduced Prime Farmland Alternative would decrease the amount of fuel required during construction, operation and decommissioning of a solar facility and energy storage component on 39.5 acres of land. The Project does not have any unusual characteristics that would result in excessive fuel consumption from on-road vehicles. Fuel consumption associated with on-road vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Thus, impacts to energy resources would be

less than significant and similar for both the Reduced Prime Farmland Alternative and the proposed Project.

Both the Reduced Prime Farmland Alternative and the proposed Project would not use substantial amounts of local and regional energy supplies or create requirements for additional capacity. As discussed in detail in Section 4.14, each CUP would produce more electricity than it would consume. As such neither the Reduced Prime Farmland Alternative or the proposed Project would impose additional demands on peak and base period demands for electricity and other forms of energy. Both the Reduced Prime Farmland Alternative and the proposed Project would both create a new sources of renewable solar energy that would help the State of California meet its goals for use and production of alternative renewable energy sources. However, less renewable energy would be produced in association with the Reduced Prime Farmland Alternative resulting in a greater impact to the State's ability to meet its RPS compared to the proposed Project.

Both the Reduced Prime Farmland Alternative and the proposed Project would generate construction traffic that would require travel and associated transportation energy use. Despite the reduction in acreage of prime farmland, the number of construction, operational and decommissioning workers and equipment are not anticipated to decline substantially compared to the proposed Project. Construction energy expenditures would occur for a limited duration (e.g. 18-months for the Full Build-out Scenario) and would be minimized through implementation of standard mitigation measures identified to reduce amount of energy used for the projects (i.e. use of alternative fueled or catalyst equipped diesel construction equipment; minimize idling time; replace fossil-fueled equipment with electrically driven equivalents). Energy can also be saved through worker carpooling. Overall, transportation energy use is anticipated to be similar for both Reduced Prime Farmland Alternative and the proposed Project.

5.4.2 ALTERNATIVE 2 - NO PROJECT ALTERNATIVE

Alternative 2 is the No Project Alternative. Analysis of the No Project Alternative is required by CEQA Guidelines Section 15126.6(e)(1). The purpose of describing and analyzing a No Project Alternative is to allow decision-makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed Project. This alternative considers the circumstance under which the Project does not proceed. This discussion analyzes the impacts of the No Project Alternative by projecting what can reasonably be expected to occur in the foreseeable future if the Project were not approved, as compared to the proposed Project. For the purposes of this analysis, the No Project Alternative assumes that the proposed Project would continue to remain as active agricultural land owned by the IID. The proposed 100 MW Drew Solar Project would not be developed and none of the applications associated with the project for a General Plan Amendment, Zone Change, Variance, CUPs, Parcel Map, Lot Tie Agreements and Developer Agreement would be submitted for approval to the County of Imperial and the Project site would retain its current land use designation and zoning. The Project site is currently designated "Agriculture" in the Imperial County General Plan and is currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural) and could be developed consistent with the land use designation and zoning.

Characteristics

Under the No Project Alternative, the 100 MW Drew Solar Project would not be constructed. The proposed Project site would remain in its existing state as 762.8 net acres of agricultural land owned by the IID. Approval OF General Plan Amendment (GPA) (17#0006); Zone Change (ZC317-0007); Variance (V# 17-0003); FIVE CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035)to develop solar energy generating and energy storage systems; and one CUP#18-0001 to develop energy storage as

a component of solar on lands currently zoned A-2, A-2-R and A-3; Parcel Map (PM#02478); Lot Tie Agreement(s); and a Development Agreement would not be granted.

Instead, under the analysis of the No Project Alternative, the proposed Project site is assumed to remain in its existing condition as active farmland owned by the IID. In addition, the two Gen-Tie lines would not be constructed across Drew Road and SR-98 and no energy storage would be constructed on the Project site.

Relationship to Project Objectives

Implementation of the No Project Alternative would fail to fulfill the Project's objectives to develop the Drew Solar Project. Failure to construct the Project would forego development of a new source of renewable energy and forfeit locating a project of this size on previously disturbed land in a rural setting in proximity to the existing IID infrastructure (i.e. the Drew Switchyard). The Project site would remain in its existing state and would not support the Project's multiple objectives including: enabling better energy balancing and greater grid reliability through the development of energy storage facilities; reducing the likelihood of energy blackouts through the development of energy storage facilities; helping to meet the mandate of 1.3 gigawatts (GW) of energy storage established by Assembly Bill 2514. Therefore, the No Project Alternative would not achieve the objectives of the proposed Project. [Note: the full list of Objectives is provided in Chapter 2.0, Project Description].

Comparative Impacts

Aesthetics

Under the No Project Alternative, the aesthetic condition of the Project site would remain as it currently exists. Alteration of the site from farmland (typically used to grow Bermuda grass, Klein grass, etc.) to a solar energy generating facility with supporting structures including two Gen-Tie lines and supporting infrastructure would not occur.

The Project site is not located in a scenic vista nor does it contain any outstanding aesthetic features. No change in the existing visual quality of the Project site through introduction of a solar field and supporting infrastructure would occur under the No Project Alternative. Therefore, potential impacts related to a scenic vista, the existing visual character, light and glare and cumulative impacts would be less under the No Project Alternative compared to the proposed Project.

Land Use

The Project site has an existing General Plan land use designation of Agriculture and is currently zoned A-2 (General Agricultural Zone), A-2-R (General Agricultural Zone/Rural Zone), and A-3 (Heavy Agricultural). Solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses within these zones. The proposed Project requires approval of the following: General Plan Amendment (GPA#17-0006); Zone Change (ZC#17-0007); Variance (V#17-0003); five CUPs (CUP#17-0031, CUP#17-0032, CUP#17-0033, CUP#17-0034, CUP#17-0035) to develop solar energy generating and energy storage systems; and one CUP#18-0001 to develop energy storage as a component of solar on lands currently zoned A-2, A-2-R and A-3; Parcel Map (PM 02478); Lot Tie Agreement(s); and a Development Agreement.

Under the No Project Alternative, none of the above listed applications or Development Agreement would be required as the Project site would not be developed with a solar energy generating facility including two Gen-Tie lines and energy storage as a component of solar. This analysis assumes that the existing land use pattern would remain unchanged as approximately 762.8 acres of farmland owned by the IID. Overall, because the proposed Project requires a GPA, potential impacts associated with

applicable land use plans, policies and regulations would be less under the No Project Alternative compared to the proposed Project.

Transportation

Existing Year 2017 construction-related traffic impacts would not occur under the No Project Alternative. Increases in vehicle traffic related to operation and maintenance (Near-Term Year 2019 with Project, Long-Term (Year 2027) Conditions) of the Project would also not occur under the No Project Alternative. No major changes in traffic volumes or patterns would occur on SR 98 and no new access driveways would be constructed to the Project site would be constructed off of SR 98, Kubler Road, Drew Road or Pulliam Road. Damage to area roadways as a result of construction traffic would also be avoided. Therefore, potential impacts related to roadway Level of Service standards, hazardous design features and cumulative traffic impacts would be less under the No Project Alternative compared to the proposed Project.

Air Quality

Under the No Project Alternative, air pollutant emissions during both Project construction, operation and decommissioning would not occur. While the proposed Project would not obstruct an air quality plan, violate an air quality standard, or exceed a criteria pollutant threshold, all construction and decommissioning air quality emissions would be eliminated under the No Project Alternative. Therefore, potential impacts to air quality would be less under the Project site's existing condition as farmland under the No Project Alternative compared to construction of the proposed Project. However, operational air quality emissions associated with the proposed Project as solar energy generating facility would be less than the existing active farmland/agricultural operations on the Project site which typically generate air quality dust emissions. No sensitive receptors would be impacted and no objectionable odors would be generated by the No Project Alternative. Generation of dust or temporary objectionable odors associated with construction would be avoided under the No Project Alternative.

Overall, potential impacts related to air quality plans and standards, objectionable odors, sensitive receptors and cumulative impacts would be greater under the No Project Alternative compared to the proposed Project as farming operations would continue on the Project site.

Greenhouse Gases

Short-term construction-related greenhouse gas (GHG)/climate impacts would not occur under the No Project Alternative as no construction would take place on the Project site. Likewise, minimal operational GHG/climate change impacts resulting from operations and maintenance vehicle trips would not occur under the No Project Alternative. Compared to GHGs resulting from farming, operation of the proposed Project as a solar energy generating facility with no emissions would result in less GHG impacts compared to the proposed Project.

Geology and Soils

Under the No Project Alternative, a solar energy generating facility with energy storage as a component of solar, two Gen-Tie lines, and O&M buildings with septic systems would not be built within the Project site. Impacts associated with geologic hazards (i.e. exposure to Alquist-Priolo fault, seismic ground shaking, liquefaction, soil erosion, expansive soils, soil corrosivity) would be avoided as none of the proposed structures (i.e. PV panels, Gen-Tie lines, energy storage facilities, O&M buildings) would be developed. Potential to impact previously unknown paleontological resources would also be avoided under the No Project Alternative compared to the proposed Project. Therefore, geology and soils impacts (including impacts to previously unknown paleontological resources) would be less under the No Project Alternative compared to the proposed Project.

Overall, potential impacts related to exposure to an Alquist-Priolo fault, seismic ground shaking, liquefaction, soil erosion, expansive soils, soil corrosivity would be less under the No Project Alternative compared to the proposed Project.

Cultural Resources & Tribal Cultural Resources

Under the No Project Alternative, construction activities required to install the Project (i.e. solar panel footing installation, inverter pads, drilling for Gen-Tie poles, etc.) would not occur. Thus, the potential to impact historical resources, impact unanticipated archaeological resources, and previously unknown subsurface human remains or cause a substantial adverse change in the significance of a tribal cultural resource would be completely avoided.

Overall, potential impacts to cultural resources and tribal cultural resources would be less under the No Project Alternative than under the proposed Project.

Noise

Under the No Project Alternative, the site would remain in its current state as agricultural land, resulting in no change in the current ambient noise levels. Short-term construction-related noise impacts would not occur under the No Project Alternative. Similarly, without development of the proposed Project, long-term operational noise would be avoided. Therefore, noise impacts would be less under the No Project Alternative if the Project site remains in its current state as both construction and operational noise levels would be less compared to the proposed Project.

Agricultural Resources

For the analysis of the No Project Alternative, the Project site is assumed to remain in its existing condition as 768.2 net acres of farmland. No temporary conversion of agricultural land to a solar energy generating facility with supporting infrastructure would occur. Therefore, impacts to agricultural resources would be less under the No Project Alternative compared to the proposed Project which would temporarily convert agricultural land, including Prime Farmland, Farmland of Local Importance and Farmland of Statewide Importance to other non-agricultural uses.

Hazards and Hazardous Materials

Under the No Project Alternative, the proposed Project site is assumed to remain in its existing condition 762.8 acres of farmland. No hazardous materials would be transported to the site for use during construction, operation or decommissioning of the proposed Project. There is a potential for pesticides and herbicides to be released into IID drains under the No Project Alternative in association with continue farming. However, no reasonably foreseeable upset or release of hazardous materials would occur for the No Project Alternative as there are no Recognized Environmental Concerns on the Project site. Overall, potential impacts related to the transport, use, disposal and accidental release of hazardous materials; the upset or release of hazardous materials onsite; and cumulative impacts would be greater under the No Project Alternative compared to the proposed Project.

Hydrology and Water Quality

Implementation of the No Project Alternative would not result in any change to existing runoff rates or patterns. Without the introduction of a solar energy generating facility, no new pervious surfaces or structures would be developed on the Project site and groundwater would continue to be allowed to percolate uninhibited over the Project site. No detention basins would be constructed or needed as there would be no change in runoff patterns or quantities in association with the No Project Alternative as compared to the proposed Project. Under the No Project Alternative, erosion and siltation would be controlled in accordance with County standards including preparation, review and approval of a grading

plan by the County Engineer; compliance with Rule 800 and compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The proposed Project would maintain the existing drainage pattern and have detention basins. Less than significant impacts were identified with regard to runoff, interference with groundwater recharge, erosion and siltation, flooding or exceeding drainage capacity for the proposed Project. Overall, potential impacts related to hydrology and water quality would be less in association with continued agricultural use under the No Project Alternative compared to the proposed Project.

Biological Resources

Under the No Project Alternative, the proposed Project would not be developed and the Project site would remain in its existing condition as farmland. If the Project was not developed, impacts from implementation of the proposed Project to biological resources such as special status animals (e.g. Burrowing Owl, California Black Rail, Yuma's Ridgeway's Rail), riparian habitat (Arrow Weed Thicket and Cattail Marsh Alliance) and jurisdictional waters (IID drains) would be avoided. Therefore, impacts to biological resources would be less under the No Project Alternative if the Project site were to remain as 762 net acres of farmland. The Project site is not a viable wildlife corridor and the proposed Project would not impact habitat linkage. Overall, the No Project Alternative would have less impacts to biological resources compared to the Project site.

Public Services and Utilities

Under the No Project Alternative the Project site would not be developed with a solar energy generating facility with supporting infrastructure including two Gen-Tie lines, energy storage and O&M Buildings. If the Project site is allowed to remain in its existing condition as farmland, demand for ICFD and ISCO services would remain unchanged; no on-site water or wastewater treatment facilities would be constructed; no construction or operational water would be needed; no solid waste pick-up or disposal would be necessary; no service from IID would be needed to operate the O&M building(s) and keep inverters warm during the evening hours; and no internet or telephone service would be necessary. In addition, 100 MW of renewable energy would not be generated by the Project and distributed to the California electricity grid. Therefore, impacts related to public services and utilities would be less if the proposed Project continues in its present condition as farmland under the No Project Alternative as compared to the proposed Project. While overall, potential impacts to fire protection, law enforcement services, water treatment, water supply, wastewater, solid waste service and landfill capacity, and electrical service would be less under the No Project Alternative compared to the proposed Project, the No Project Alternative would result in greater water demand than would occur under the No Project Alternative. Likewise, generation of 100 MW of renewable energy would not occur.

Energy

Under the No Project Alternative the Project site would not be developed with a solar energy generating facility with supporting infrastructure including two Gen-Tie lines, energy storage and O&M Buildings. No energy resources would be expended on construction as the site would remain in agricultural production. Existing energy use needed to farm the site would still occur but the No Project Alternative would not impose additional demands on local and regional energy supplies or peak and base period demands for electricity and other forms of energy. By maintaining existing farming operations on the Project site, the No Project Alternative would forego development of 100 MW of renewable energy generation and energy storage thereby not assisting the State with meeting its RPS and increasing renewable energy sources. Therefore, the No Project Alternative would result in greater impacts than the proposed Project with regard to compliance with existing energy standards and effects on energy sources. Transportation energy usage associated with existing farming operations would be the same for the No Project. Overall, energy

impacts of the No Project would be greater than the proposed Project because the No Project Alternative would forego the development of 100 MW of renewable energy which would contribute to the electricity needs and help the State meet its goals for use and production of alternative renewable energy standards.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Based upon the evaluation described in this section, the No Project Alternative (Alternative 2) is considered to be the environmentally superior alternative as it would avoid all adverse impacts associated with the proposed Project. The No Project Alternative was determined to have less adverse environmental impacts than the proposed Project on most issues overall assuming that the site remains in its existing condition as farmland.

Under CEQA Guidelines Section 15126.6 (e)(2), if the environmentally superior alternative is the No Project Alternative, another environmentally superior alternative must be selected from the other alternatives analyzed. After the No Project Alternative, the alternative with the least potential impacts would be the Reduced Prime Farmland Alternative. When compared to the proposed Project, the Reduced Prime Farmland Alternative resulted in the majority of impacts being similar to or less severe than the impacts that would occur in association with implementation of the proposed Project. However, impacts would be greater in association with the Reduced Prime Farmland Alternative compared to the proposed Project with regard to energy. Specifically, the Reduced Prime Farmland Alternative would forego developing approximately 39.5 acres with solar facilities that would contribute to the State's renewable energy supply and beneficially contribute to IID local energy supplies. Therefore, the Reduced Prime Farmland Alternative would be the environmentally superior alternative overall with the exception of renewable energy generation.

Table 5.0-1, below, provides a summary of the potential impacts of the alternatives evaluated in this section, as compared with the potential impacts of the proposed Project.

TABLE 5.0-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY RESOURCE/IMPACT	REDUCED PRIME FARMLAND ALTERNATIVE	NO PROJECT ALTERNATIVE
AESTHETICS		
Impact 4.1.1 – Adverse Effect on Scenic Vista	L	L
Impact 4.1.2 – Degrade Existing Visual Character or Quality of the Site and its Surroundings	L	L
Impact 4.1.3 – New Source of Substantial Light or Glare	L	L
Impact 4.1.4 – Cumulative Visual and Light and Glare Impacts	L	L
LAND USE		
Impact 4.2.1 – Cause a Significant Environmental Impact due to a Conflict with Any Land Use Plan, Policy, or Regulation	S	L
Impact 4.2.2 – Cumulative Conflicts with Applicable Land Use Plans, Policies, or Regulations	S	L
TRANSPORTATION		
Impact 4.3.1 – Conflict with Applicable Plan – Existing Year 2017 Plus Project Construction Conditions	S	L
Impact 4.3.2 – Conflict with Applicable Plan – Near-Term (Year 2019) With Project	S	L
Impact 4.3.3 – Conflict with Applicable Plan – Long-Term (Year 2027) Conditions	S	L
Impact 4.3.4 – Increase Hazards Due to a Geometric Design Feature – Driveways and Travel Speeds	S	L
Impact 4.3.5 – Increase Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction	S	L
Impact 4.3.6 – Emergency Access	S	L
Impact 4.3.7 – Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS – Existing (Year 2017) With Project Construction With Cumulative Conditions	S	L
Impact 4.3.8 – Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS - Near-Term (Year 2019) With Project Construction With Cumulative Conditions	S	L
Impact 4.3.9 – Cumulative Impacts to Intersection, Roadway and Freeway Segment LOS – Long-Term (Year 2027) With Project Construction With Cumulative Conditions	S	L
Impact 4.3.10 – Cumulative Increase Hazards Due to a Geometric Design Feature	S	L
Impact 4.3.11 – Cumulative Increases in Hazards Due to a Geometric Design Feature – Damage to County-Maintained Roadways During Project Construction	S	L

TABLE 5.0-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY RESOURCE/IMPACT	REDUCED PRIME FARMLAND ALTERNATIVE	NO PROJECT ALTERNATIVE
AIR QUALITY		
Impact 4.4.1 – Conflict with or Obstruct Implementation of an Applicable Air Quality Plan	L	G
Impact 4.4.2 – Result in a Cumulatively Considerable Net Increase of any Criteria Pollutant	L	G
Impact 4.4.3 – Exposure of Sensitive Receptors to Substantial Pollutant Concentrations	L	L
Impact 4.4.4 – Result in Emissions Affecting a Substantial Number of People	L	L
Impact 4.4.5 – Cumulative Air Quality Impacts – Violate Air Quality Standard/Cause Air Quality Violation	L	L
GREENHOUSE GASES		
Impact 4.5.1 – Generation of Greenhouse Gas Emissions	S	G
Impact 4.5.2 – Conflict with an Applicable Plan, Policy, or Regulation Adopted to Reduce Greenhouse Gas Emissions	S	G
GEOLOGY AND SOILS		
Impact 4.6.1 – Alquist-Priolo Earthquake Fault Rupture	L	L
Impact 4.6.2 – Strong Seismic Ground Shaking	L	L
Impact 4.6.3 – Liquefaction	S	L
Impact 4.6.4 – Soil Erosion	L	L
Impact 4.6.5 – Expansive Soils	S	L
Impact 4.6.6 – Soil Capability to Support On-site Wastewater Treatment System	S	L
Impact 4.6.7 – Soil Corrosivity	S	L
Impact 4.6.8 – Impacts to Paleontological Resources	L	L
Impact 4.6.9 – Cumulative Exposure to Geologic and Seismic Impacts	L	L
Impact 4.6.10 – Cumulative Impacts to Paleontological Resources	L	L

TABLE 5.0-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY RESOURCE/IMPACT	REDUCED PRIME FARMLAND ALTERNATIVE	NO PROJECT ALTERNATIVE
CULTURAL RESOURCES & TRIBAL CULTURAL RESOURCES		
Impact 4.7.1 – Impacts to Historical Resources	L	L
Impact 4.7.2 – Impacts to Unanticipated Archaeological Resources	L	L
Impact 4.7.3 – Impacts to Previously Unknown Subsurface Human Remains	L	L
Impact 4.7.4 – Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource	L	L
Impact 4.7.5 – Cumulative Impacts to Historic and Archaeological Resources, Human Remains and Tribal Cultural Resources	L	L
NOISE		
Impact 4.8.1 – Substantial Temporary or Permanent Noise Increase in Excess of Standards	L	L
Impact 4.8.2 – Groundborne Vibration or Groundborne Noise Level Impacts	L	L
Impact 4.8.3 – Cumulative Noise Increases/Groundborne Vibration	L	L
Impact 4.8.4 – Cumulative Noise Increases	L	L
AGRICULTURAL RESOURCES		
Impact 4.9.1 – Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance	L	L
Impact 4.9.2 – Indirect Environmental Effects of Conversion of Farmland	L	L
Impact 4.9.3 – Cumulative Agricultural Resources Impacts	L	L
HAZARDS AND HAZARDOUS MATERIALS		
Impact 4.10.1 – Hazardous Materials Transport, Use, Disposal and Accidental Release	S	L
Impact 4.10.2 – Hazard Through Upset/Release of Hazardous Materials	S	L
Impact 4.10.3 – Cumulative Hazards and Hazardous Materials Impact	S	L

TABLE 5.0-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY RESOURCE/IMPACT	REDUCED PRIME FARMLAND ALTERNATIVE	NO PROJECT ALTERNATIVE
HYDROLOGY AND WATER QUALITY		
Impact 4.11.1 – Violate Water Quality Standards or Waste Discharge Requirements	S	L
Impact 4.11.2 – Result in Depleted Groundwater Supplies or Interfere Substantially with Groundwater Recharge	S	L
Impact 4.11.3 – Result in Substantial Erosion or Siltation On- or Off-site	S	L
Impact 4.11.4 – Alteration of Drainage Pattern Substantially Increasing Surface Runoff/ Construction of Stormwater Drainage	S	L
Impact 4.11.5 – Create or Contribute Runoff Exceeding Capacity/ Provide Substantial Sources of Polluted Runoff	S	L
Impact 4.11.6 – Cumulative Water Quality and Runoff Impacts	S	L
BIOLOGICAL RESOURCES		
Impact 4.12.1 – Impacts to Special Status Species (Burrowing Owl)	S	L
Impact 4.12.2 – Impacts to Special Status Species (California Black Rail and Yuma Ridgeway's Rail)	S	L
Impact 4.12.3 – Impacts on Riparian Habitat or other Sensitive Natural Community (Arrow Weed Thicket and Cattail Marsh Alliance)	S	L
Impact 4.12.4 – Impacts on Wetlands/Jurisdictional Resources	S	L
Impact 4.12.5 – Impacts to Wildlife Corridors/Habitat Linkage	S	L
Impact 4.12.6 – Cumulative Impacts to Biological Resources	S	L
PUBLIC SERVICES AND UTILITIES		
Impact 4.13.1 – Impacts to ICFD Services	S	L
Impact 4.13.2 – Impacts to ICFD Accessibility	S	L
Impact 4.13.3 – Cumulative Impacts to ICFD Fire Protection and Emergency Response	S	L

TABLE 5.0-1 COMPARISON OF ALTERNATIVES TO THE PROPOSED PROJECT BY RESOURCE/IMPACT	REDUCED PRIME FARMLAND ALTERNATIVE	NO PROJECT ALTERNATIVE
Impact 4.13.4 – Impacts to ICSO Services	**S**	**L**
Impact 4.13.5 – Cumulative Impacts to ICSO Services	**S**	**L**
Impact 4.13.6 – Construction of New Water Facilities	**L**	**L**
Impact 4.13.7 – Water Supply Sufficiency	**L**	**G**
Impact 4.13.8 – Cumulative Water Supply Impacts	**L**	**G**
Impact 4.13.9 – Construction of New Wastewater Treatment and Wastewater Treatment Infrastructure	**L**	**L**
Impact 4.13.10 – Cumulative Wastewater Impacts	**L**	**L**
Impact 4.13.11 – Generate Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste	**L**	**L**
Impact 4.13.12 – Cumulative Impacts to Solid Waste in Excess of Standards or in Excess of Capacity of Local Infrastructure/Comply with Statutes and Regulations Related to Solid Waste	**L**	**L**
Impact 4.13.13 – Relocation or Construction of New or Expanded Electric Power Facilities	**L**	**L**
Impact 4.13.14 – Cumulative Impacts to Electric Service	**L**	**L**
Impact 4.13.15 – Impacts to Telecommunications Facilities	**S**	**L**
Impact 4.13.16 – Cumulative Impacts to Telecommunications Facilities	**S**	**L**
ENERGY		
Impact 4.14.1 – Use of Energy Resources During Project Construction and Operation	**S**	**L**
Impact 4.14.2 – Consumption of Energy - Effects on Local and Regional Energy Supplies	**S**	**L**
Impact 4.14.3 – Consumption of Energy - Effects on Peak and Base Period Demands	**L**	**L**
Impact 4.14.4 – Conflict with or Obstruct State or Local Plan - Compliance with Existing Energy Standards	**G**	**G**
Impact 4.14.5 – Energy Consumption - Effects on Energy Sources	**S**	**G**
Impact 4.14.6 – Energy Consumption - Transportation Energy Use	**L**	**L**

Notes: S = Similar Impact compared to the Proposed Project

L = Less Impact compared to the Proposed Project

G = Greater Impact compared to the Proposed Project.

CHAPTER 6.0
OTHER CEQA CONSIDERATIONS

This section discusses the additional topics statutorily required by CEQA Guidelines Section 15126.2. The topics include whether the proposed Project would: cause significant irreversible environmental changes; result in growth inducing impacts; or create unavoidable significant environmental impacts. A discussion of Mandatory Findings of Significance is also included. This section begins with a discussion of socioeconomic impacts associated with implementation of the proposed Project as addressed in CEQA Guidelines Section 15131.

6.1 SOCIOECONOMIC IMPACTS

Development Management Group, Inc. (DMG 2019), prepared a report that examined the fiscal and economic impacts of the proposed Drew Solar Project. The report examined impacts of converting the solar field site parcels from an agricultural use to an industrial solar project. Three analyses were undertaken to determine how the Project would affect the region: 1) an Economic Impact Analysis; 2) an Employment/Jobs Impact Analysis; and 3) a Fiscal Impact Analysis. The findings of each analysis is briefly summarized below with the full report provided on the attached CD of Technical Appendices as **Appendix M** of this EIR.

6.1.1 ECONOMIC IMPACT ANALYSIS

The Economic Impact Analysis calculated the predicted impact of the Drew Solar Project to the Imperial County Region including all known direct (and indirect) expenditures resulting from construction and operation for the life of the Project. The economic impact of the Drew Solar Project to the Imperial County region was calculated to be approximately $109.14 million over the Project's 30-year life (inclusive of both project construction and operations). By comparison, the estimated economic impact of the current use of the solar field site parcels (field/grass crops and produce) over the same 30-year period was calculated to be $80.34 million. Thus, the proposed Project would result in $28.8 million more for the Imperial County region compared to the existing agricultural uses (DMG 2019).

6.1.2 EMPLOYMENT OR JOBS IMPACT ANALYSIS

The Employment/Jobs Impact Analysis calculates the total amount of construction and operational jobs created by the Project and compares these jobs to those already in existence on the Project site. The solar field site parcels have historically been used for hay/grass type crops. The proposed use of the solar field site parcels for solar energy production will generate about 4 or 5 more total (direct and indirect) permanent jobs compared to the current agricultural use. This is in addition to the 190 one-year full-time equivalent construction jobs that are projected during the first year (the construction period) (DMG 2019).

6.1.3 FISCAL IMPACT ANALYSIS

The Fiscal Impact Analysis calculates the amount of revenue a governmental agency is expected to receive and calculates the projected costs the agency will incur to provide appropriate services to both the project and the additional population/employment generated by the project. A comparative model is produced to determine if the project is of economic benefit or cost to the government agency (DMG 2019).

Development Management Group, Inc. calculated that the Drew Solar Project will generate approximately $3.36 million in net local (county) tax revenue over the 30-year life of the project. This is derived from an estimated $1.31 million in sales tax revenue and $2.05 in net property tax revenue (DMG 2019).

The estimated cost to the County to provide appropriate services and related employment to the Project is approximately $2.56 million thus generating a projected surplus to the County of Imperial of

approximately $802,000 over the 30-year life of the project (subject to acceptance of the recommendations provided within the report). Note that this amount is based solely on the tax laws currently in place and does not include any amounts that may be received by the County under a Public Benefit Agreement or similar arrangement (DMG 2019).

6.1.4 STATEMENT REGARDING URBAN DECAY AS A RESULT OF THE PROPOSED PROJECT

The CEQA Guidelines discuss and define the parameters for which the consideration of socioeconomic impacts should be included in an environmental evaluation. CEQA Guidelines Section 15131 states that "economic or social information may be included in an EIR or may be presented in whatever form the agency desires." Section 15131(a) of the Guidelines states that "economic or social effects of a project shall not be treated as significant effects on the environment." An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus on the analysis shall be on the physical changes." CEQA Guidelines Section 15131(b) also state that "economic or social effects of a project may be used to determine the significance of physical changes caused by the project (DMG 2019, p. 25)."

For example, the physical division of a community caused by rail lines that bisect a community. Impacts upon the community caused by the rail line could be measured (DMG 2019, p. 25).

In recent years, California Courts have generally defined the term "urban decay" to mean the physical changes that a projects potential socioeconomic impacts could bring to other parts in a community. The case that brought the concept of urban decay to light is *Bakersfield Citizens for Local Control v. City of Bakersfield (204) 124 Cal.App.4th 1184.* In this case, the court set aside two EIRs for proposed Wal-Mart projects that would have been located less than five miles from each other. The case appears to be the first time the courts used the words "urban decay" rather than "blight". In essence, the courts ruled that the two Wal-Mart projects could result in a chain reaction of store closures and vacancies as a result of new retail growth that may or may not be supported by other changes in market conditions (i.e., the downtowns would become ghost towns because the Wal-Mart(s) moved the retail business away from the urban center) (DMG 2019, p. 25).

Based on this case and work that DMG (and others have completed relative to "urban decay" analysis), it appears that the core question to ask (and answer) is: Would the construction of the Drew Project at the proposed site result in substantial and adverse physical changes to surrounding areas (i.e., will the project cause such a shift in the marketplace that other portions of the community become visually blighted "urban decay" (DMG 2019, p. 26)?

Industrial scale renewable energy projects are built to generate power at a specific location to export to another location for use by various consumers (residents and businesses). Each power generation facility is a stand-alone project that is built as a result of a contractual obligation (power purchase agreement) in which a power provider contracts with a power producer (DMG 2019, p. 26).

It can be argued that most (if not all) of the renewable power generation constructed in the Imperial Valley (Imperial County) over the last five years has been a direct result of action by the State of California Legislature commonly known as Renewable Portfolio Standard (RPS). The RPS has essentially created a new market or industry for renewable energy in the State of California (DMG 2019, p. 26).

Overall, it would appear as though power production is increasing faster than the general population which would create a situation whereby urban decay could be occurring elsewhere as a result of these

new projects. This urban decay would be as a result of the new power projects coming on-line replacing other power generation sources (DMG 2019, p. 26).

DMG concludes that traditional power generation facilities (namely coal and nuclear) are being replaced with a larger percentage of renewable power generation sources (solar, wind and geothermal) as a result of legislative action in California. This means that even if another non-renewable energy power generation facility in the Imperial Valley were being "put out of business" and the solar field site parcels were to become "visually blighted", urban decay would not occur because the legislature determined the greater good for California is reached by a greater percentage of energy coming from renewable sources (DMG 2019, p. 26). For example, the recent decision to close the San Onofre Nuclear Power Plant in North County San Diego means that a greater amount of overall power generation must be developed to replace the power that was being generated by that specific nuclear source.

DMG further determined that the development of the Drew Solar Project would not cause physical blight (urban decay) because the facility is a stand-alone and will have its own contracts based on power purchase demand. In other words, another industrial scale energy facility that will not cease to operate as a result of the proposed Project (DMG 2019, p. 27).

6.2 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL EFFECTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. In addition, Section 15093(a) of the CEQA Guidelines requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits (including region-wide or statewide environmental benefits of a proposed Project) against its unavoidable environmental risks when determining whether to approve the project. The County of Imperial can approve a project with unavoidable adverse impacts if it adopts a "Statement of Overriding Considerations" setting forth the specific reasons for its decision. Based on the analysis provided in Sections 4.1 through 4.14, the proposed Drew Solar Project would not result in any significant and unavoidable adverse impacts.

6.3 LONG-TERM GROWTH-INDUCING IMPACTS

6.3.1 INTRODUCTION

CEQA Guidelines Section 15126.2[d] requires that an EIR evaluate the growth-inducing impacts of a proposed action. A "growth-inducing impact" is defined by the CEQA Guidelines as:

> *"…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… It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

Growth inducement potential can result from a project either directly or indirectly. Direct growth inducement results from a project which can accommodate population growth such as residential subdivision or apartment complex. Indirect growth inducement potential can result from a large number of new permanent employment opportunities associated with commercial or industrial development. Likewise, indirect growth can occur if a project removes an obstacle to additional growth and development, such as removing a constraint on a required public service. Growth inducing projects provide resources (such as water) or infrastructure capacity (such as wastewater conveyance and treatment) that has previously been missing or inadequate to allow growth.

Environmental effects of growth inducement are considered indirect impacts. These indirect impacts or secondary effects of growth have the potential to result in significant, adverse environmental impacts. Potential secondary effects of growth include: increased traffic and noise; increased demand on other community and public services and infrastructure; adverse environmental impacts such as degradation of air and water quality; degradation or loss of plant and animal habitat; and conversion of agricultural and open space land to developed uses.

The Imperial County General Plan provides for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by public utilities and services. A project that would induce unplanned growth or growth that conflicts with the local land use plans could indirectly cause additional adverse environmental and public services and utilities impacts. To determine if a growth-inducing project will result in adverse secondary effects, it is important to assess the degree to which the growth occurring as part of a project would or would not be consistent with applicable land use plans.

6.3.2 COMPONENTS OF GROWTH

The timing, location and extent of development and population growth in a community or region are based on multiple factors. Key variables include regional economic trends, market demand for residential and nonresidential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. The general plan is the primary mechanism used to regulate development and growth in California as it is used to define location, type, and intensity of growth.

6.3.3 PROJECT-SPECIFIC GROWTH-INDUCING IMPACTS

A. GROWTH INDUCEMENT POTENTIAL

As described in Chapter 2.0, Project Description, the Drew Solar Project proposes to

The Applicant is proposing to construct, operate and decommission a solar generation and energy storage facility on approximately 855 gross and 762.8 net farmable acres (inclusive of solar field, energy storage, project substation(s), roads, retention basins, etc.) located in southern Imperial County, California. The Applicant, Drew Solar, LLC, submitted the following applications to ICPDS Department:

- Amendment (GPA#17-0006) to Imperial County's General Plan for amendment of the Renewable Energy & Transmission Element to create an Island Overlay for the Project Site, and amendment of the requirements for said Island Overlay;
- Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project Site;
- Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project Site (APNs: 052-170-039 & 052-170-067), including APN 052-170-030 to the north of the Project Site as part of the Parcel Map;
- Five CUPs (CUP#17-0031; CUP#17-0032; CUP#17-0033; CUP#17-0034 and CUP#17-0035) to develop solar energy generating systems including potential energy storage on lands zoned A-2, A-2-R, and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02;
- One CUP (CUP#18-0001) to develop energy storage as a component of solar on lands zoned A-2 and A-3 per Title 9, Division 5: Zoning Areas Established, Chapter 8, Sections 90508.02 and 90509.02 (A-2 & A-3). Said energy storage would be removed at the time of removal of associated solar facility;

- Variance (V#17-0003) for power pole structures that are over 120 feet in height on all proposed project parcels, including the existing Drew Switchyard. With approval of the Variance, the proposed structures could be up to 180 feet in height; and
- Up to five Lot Tie Agreements to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another.
- A Development Agreement between the County and the Applicant to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Pursuant to the terms of the Development Agreement, thereafter, the CUPs would be valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

The Project will use PV technology to convert sunlight directly into direct current (DC) electricity. The process starts with photovoltaic cells that make up photovoltaic modules (environmentally sealed collections of photovoltaic cells). PV modules are generally non-reflective. Groups of photovoltaic modules are wired together to form a PV array. The DC produced by the array is collected at inverters (power conversion devices) where the DC is converted to AC. The voltage of the electricity is increased by a transformer at each power conversion station to a medium voltage level (typically 34.5 kilovolts [kV]). Medium voltage electric lines (underground and/or overhead) are used to collect the electricity from each medium voltage transformer and transmit it to the facility substation(s), where the voltage is further increased by a high voltage transformer to match the electric grid for export to the point of interconnection at the Drew Road Switchyard. Disconnect switches, fuses, circuit breakers, and other miscellaneous equipment will be installed throughout the system for electrical protection and operations and maintenance purposes.

As described in Section 4.2, Land Use, the proposed solar field site parcels are located in unincorporated Imperial County and are subject to the Imperial County General Plan and Land Use Ordinance. The General Plan land use designation “Agriculture” applies to all five of the solar field site parcels. The solar field site parcels are also zoned as “Agriculture” (General Agriculture [A-2], General Agriculture Rural [A-2-R] and Heavy Agriculture [A-3]) by the Imperial County Land Use Ordinance. Per Title 9, Division 5, Sections 90508.02 and 90509.02 of the Land Use Ordinance, solar energy electrical generators, electrical power generating plants, substations, and facilities for the transmission of electrical energy are allowed as conditional uses in Agricultural zones. A maximum 120-foot height limit applies in A-2, A-2-R and A-3 zones.

The proposed Project will require approval of a General Plan Amendment (GPA#17-0006) for amendment of the Renewable Energy & Transmission Element to expand the Alternative Energy Overlay to include Project site. The Project shares a common boundary to an existing transmission source (i.e. the existing Drew Switchyard) and is adjacent to the existing Centinela Solar Farm. The Project also requires a Zone Change (ZC#17-0007) to add the RE Overlay Zone to the Project site. In keeping with zoning requirements, the Project requires six CUP applications (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) for the proposed Drew Solar Project. Due to the height limit in the Agricultural Zone, the Project requires a Variance (V#17-0003) for the entire proposed Project Area, including the existing Drew Switchyard, for power pole structures that are over 120 feet in height. With approval of the Variance, the proposed structures could be up to 180 feet in height. The Project is also processing a Parcel Map (PM#02478) to fix the existing inconsistency with the legal and physical boundary of the SW ¼ Section of the Project site (APNs: 052-170-039 & 052-170-067), including APN 052-170-030 to the

north of the Project site as part of the Parcel Map. In doing so the net farmable acreage of the Project site will remain the same (762.8 net acres), and the gross acreage will increase from 844.2 gross acres to approximately 855 gross acres once the Parcel Map is recorded. The Project is also requesting Lot Tie Agreement(s) to hold some or all of the parcels that are part of the Project together as a single parcel in order to reduce/eliminate the setbacks for interior property lines of parcels that are part of the Project and adjacent to one another. Lastly, the Project is processing a Development Agreement with Imperial County to enable and control a phased build-out of the Project that is capable of meeting changing market demands by authorizing initiation of the CUP or CUPs anytime within a 10-year period. Thereafter, the CUPs are valid for the remaining period of 40 years from the date of the CUP approval. The requested Development Agreement would provide flexibility to allow the start of construction to commence for up to 10 years after the CUPs are approved.

Approval of the GPA, Zone Change, Variance, CUPs, Parcel Map and Lot Tie Agreements requests as well as the Development Agreement by the Imperial County Board of Supervisors would allow the Project to attain consistency with the General Plan and Land Use Ordinance allowable land uses. By its nature as a solar energy generating facility, the Project would not directly induce growth because it does not create new housing and it does not create a substantial number of new permanent residents or employees. Upon completion, the Full Build-out Scenario will only require approximately 6 full-time employees to maintain and operate the facility. Thus, the Project would not induce substantial population growth in the area.

The Project's creation of approximately 250 temporary construction jobs will not induce growth because the majority of workers will come from the adequate local supply of labor available to fill the Project-generated construction jobs. The County of Imperial had an unemployment rate of 19.3% in July 2018 (EDD 2018). The construction industry represents a significant portion of the local unemployed population. As such, construction of the Project, whether constructed as the Full Build-out Scenario or the Phased CUP Scenario, would not have a growth inducing effect related to workers moving into the area and increasing the demand for housing and services.

Lastly, the Project does not induce growth because the Project would provide renewable energy to meet existing and future planned electricity demands of the region and provide a new source of renewable energy to assist the State of California in achieving the RPS. Moreover, energy generated by the Project will integrate directly into the grid to serve regional energy needs and will not be available to directly serve potential population growth in surrounding areas.

6.4 GROWTH EFFECTS OF THE PROJECT

6.4.1 EXISTING AND PROPOSED LAND USES

Criterion "e" in Section 4.9, Agricultural Resources section of this Draft EIR inquires whether the project would "Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use." The Project would conditionally allow a solar energy generation facility on lands designated for agriculture on the Imperial County General Plan Land Use Map. Although implementation of the proposed Project would result in the temporary conversion of agricultural land, it is not anticipated to result in growth-related land use impacts as it does not propose residential development or other use that would attract a large population base. As noted above, local construction workers are expected to supply Project construction labor. During the operation, the Project will require between two to six employees. This small increase in employment is not sufficient to have a growth inducing impact. Further, at the end of the useful life of the Drew Solar Project, each of the six CUPs (17-0031 thru 17-0035 and 18-0001) would be reclaimed for use as active agricultural land, similar to the existing conditions at the solar field site parcels.

A. INFRASTRUCTURE

The Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario would include electric line and vehicular crossings of Imperial Irrigation District (IID) facilities, Caltrans facilities (SR 98) and County facilities as shown on the Project Phasing Map (refer to Figures 2.0-3 in Chapter 2.0-Project Description). It is anticipated that electric lines would require either overhead or underground crossings. If the crossings are constructed underground, either trenching or horizontal directional drilling may be required to place the electric or water lines under existing IID and County facilities.

The Project's two generation interconnection (Gen-Tie) transmission lines ("Gen-Ties") which are proposed to extend from the south end of the Project site approximately 400 feet south across Drew Road and State Route (SR) 98 connecting into the existing Drew Switchyard located on APN 052-190-039-000. One gen-tie is for solar generation and one is for energy storage. Both gen-tie lines may be underground or one may be underground and one above-ground. If the Project is able to collocate with other facilities in the area, the Project may construct a new pole to the east of the existing pole that is on the northerly side of the existing Drew Switchyard in order to reduce Gen-tie crossings. The Project is not expected to have an impact on infrastructure availability to adjacent parcels. The Project will be interconnected to the regional transmission system from the onsite substation(s)/switchyard(s) via the two Gen-Tie line facilities.

As a general rule, extension of utilities or increased capacity of infrastructure has the potential to result in growth inducement. Any such improvements not only accommodate a project for which they are built, but also for any other projects in the surrounding area that would be proposed or become feasible as a result of the availability of new infrastructure. However, the proposed Project is located in a rural and remote area of southwestern Imperial County with limited infrastructure. The Project would generate electricity to serve existing and projected growth that is ultimately transferred to the existing electrical grid. The Project does not extend infrastructure into an undeveloped area in a way that attracts new residential or urban growth to the Project site or surrounding area. The extension of IID electrical lines would be limited to connecting to the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario and is not considered growth inducing. Thus, implementation of the proposed Project would not contribute to growth in this area of the County.

B. HOUSING

The most recent Regional Housing Needs Assessment has determined that the unincorporated area of the County will need 13,427 housing units for the period 2006–2014 (Imperial County 2013). No housing is proposed as part of the Drew Solar Project nor is the Project anticipated to induce growth in other regions, as discussed above.

C. ROADWAYS AND OTHER SYSTEMS

Multiple County maintained roads provide access throughout the Project site and to each CUP (refer to Figures 2.0-3 in Chapter 2.0-Project Description). Access to the each CUP would primarily be via the following existing paved roads: Drew Road, Kubler Road, Pulliam Road, and SR 98. The Project does not proposed to use any unpaved County roads to access the site. Implementation of the proposed Project, whether implemented as the Full Build-out Scenario or as six CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario, would not result in new or improved roadways that would induce growth in other regions. Additionally, the Project would not involve the

development of any new water systems, or sewer that could serve areas beyond the Project site. For these reasons, the Project would not further facilitate additional development into other areas.

6.4.2 SECONDARY EFFECTS OF GROWTH

Secondary effects of the proposed Drew Solar Project would include the creation of increased traffic, noise, and air emissions during construction. However, during operation and maintenance of the Project, traffic, noise and air emissions would not increase substantially over existing levels currently experienced in the Project Area. Because the Project will generate very few permanent jobs (two to six full-time workers), no long-term substantial increase in traffic, noise or air emissions would occur as a result of the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario. The Drew Solar Project would also not result in the introduction of people and activities to an area that was formerly used for agriculture. The use of agricultural land for renewable solar energy generation facilities is a temporary condition. Once operational, the Project would require limited trips to each CUP for operation and maintenance activities during the operational lifespan of each CUP which is expected to be operate for 30 to 40 years. At the end of the Project's operational lifespan, each of the six CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) would be decommissioned and reclaimed for agricultural use, similar to the existing condition.

6.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

6.5.1 INTRODUCTION

CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes as follows:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Build-out of the proposed solar field site parcels would result in the temporary conversion of parcels previously used for agricultural purposes to solar energy production, energy storage and associated supporting infrastructure such as transmission facilities.

Development of the Project site would irretrievably commit building materials and energy to the construction and maintenance of the Project, including the two Gen-Tie lines and associated buildings and infrastructure. Renewable, nonrenewable, and limited resources that would likely be consumed as part of the development of the proposed Project would include, but are not limited to, oil, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials. Energy would also be irreversibly consumed, both as part of the construction and during operation of the proposed Project. However, the Project would provide a clean, renewable energy resource while implementing many Federal, State, and local goals and policies directed at moving away from reliance upon fossil fuels, and development of reliable sources of renewable energy. Moreover, the Applicant is required to restore the solar field site parcels to pre-Project conditions at the end of each CUP which could operate for up to 40 years from CUP approval date.

6.6 MANDATORY FINDINGS OF SIGNIFICANCE

CEQA Guidelines Section 15065 identifies four mandatory findings of significance that must be considered as part of the environmental review process of a project. These findings are identified below with an analysis of the Project's relationship to these findings.

1) The project has the potential to substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; substantially reduce the number or restrict the range of an endangered, rare or threatened species; or eliminate important examples of the major periods of California history or prehistory.

The Project's impacts on biological resources and cultural resources are evaluated in Section 4.12, Biological Resources, and Section 4.7, Cultural Resources & Tribal Cultural Resources, of this Draft EIR, respectively. Both sections identify mitigation measures to reduce impacts to these resources to a level of insignificance. Upon implementation these of these measures, impacts to biological and cultural resources will be **less than significant**.

2) The project has potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals.

The Project would result in short-term construction-related impacts with regard to traffic, unanticipated archaeological resources, previously unknown subsurface human remains, and paleontological resources; special status species (Burrowing Owl, California Black Rail and Yuma's Ridgeway's Rail) riparian habitat/sensitive natural community, wetlands/jurisdictional waters. During operation, long-term impacts could occur with regard to: exposure to Alquist-Priolo Earthquake Fault Rupture; strong seismic ground shaking; liquefaction; and soil corrosivity; and temporary conversion of agricultural land. However, the Drew Solar Project would expand the renewable energy sector in Imperial County and reduce the emission of GHGs from the generation of electricity. In doing so, the Project would assist the State of California in achieving the RPS. Development of the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario may result in temporary disadvantages to long-term preservation goals for agricultural resources, and earthquake rupture and seismic ground shaking. However, at the end of the Project's useful life, all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) would be reclaimed for agricultural uses similar to existing conditions on the solar field site parcels. Therefore, the proposed Project would result in **less than significant** impacts to long-term environmental goals.

3) The project has possible environmental effects that are individually limited but cumulatively considerable. "Cumulatively considerable" 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.

The Project's potential cumulative impacts are summarized in Chapter 5.0 of this Draft EIR. Sections 4.1 through 4.14 evaluate cumulative impacts related to each resource and technical discussion area and identify mitigation measures addressing each cumulatively considerable impact. Upon implementation of these measures, cumulative impacts will be less than cumulatively considerable.

4) The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

6.0 OTHER CEQA CONSIDERATIONS

Potential adverse impacts on humans are discussed and evaluated in Section 4.4, Air Quality, Section 4.10, Hazards and Hazardous Materials, Section 4.8, Noise, and Section 4.5, Climate Change and Greenhouse Gases. As appropriate, each section identifies mitigation measures to reduce significant impacts associated with these resource areas. In addition, the Full Build-out Scenario and all CUPs (CUP#17-0031 thru CUP#17-0035 and CUP#18-0001) proposed as part of the Phased CUP Scenario would remain subject to applicable local, state, and federal regulations intended to avoid adverse effects on humans. The proposed Project would comply with all required regulatory/legal requirements, and Project-specific conditions of approval, whether developed as the Full Build-out Scenario or the Phased CUP Scenario and would therefore result in **less than significant** impacts on humans.

CHAPTER 7.0
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CHAPTER 8.0
REFERENCES

8.1 DATA SOURCES USED IN DOCUMENT PREPARATION

The references listed below include reports, studies, data sources, and persons contacted in preparation of this EIR. These references are the primary sources of information used by the EIR preparers for the analyses provided in the EIR and are thus incorporated by reference as permitted by Section 15150 of the CEQA Guidelines. The Draft EIR appendices and any documents incorporated by reference or referred to in the EIR are available for public review at the County of Imperial.

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