Draft
Environmental Impact Report
for the
Stagecoach Solar Project

State Clearinghouse No. 2020100234
CSLC EIR No. 763; W30213; W26868

Lead Agency:
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

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MISSION STATEMENT

The California State Lands Commission provides the people of California with effective stewardship of the lands, waterways, and resources entrusted to its care based on the principles of equity, sustainability, and resiliency, through preservation, restoration, enhancement, responsible economic development, and the promotion of public access.

CEQA DOCUMENT WEBSITE
www.slc.ca.gov/Info/CEQA.html

Project Geographic Location:

Latitude: 34°38'9.06"N
Longitude: 117° 1'23.73"W
(Datum WGS84)

Document prepared in coordination with:

Aspen environmental group

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TABLES

FIGURES

APPENDICES

	°C	degrees Celsius
	°F	degrees Fahrenheit
	µg/m^3	micrograms per cubic meter
	µm	micrometer
A	AAQS	Ambient Air Quality Standards
	AB	Assembly Bill
	AC	Alternating current
	ACEC	Area of Critical Environmental Concern
	ACS	American Community Survey
	ADA	Americans with Disabilities Act
	ADL	Aerially deposited lead
	ADSS	All Dielectric Self-supporting Fiber Optic Cable
	ADT	Average daily traffic
	AF	Acre-feet
	AFY	Acre-feet per year
	APLIC	Avian Power Line Interaction Committee
	APE	Area of Potential Effect
	APM	Applicant Proposed Measure
	APS	Arizona Public Service
	APSA	Aboveground Petroleum Storage Act
	AQMD	Air Quality Management District
	AR4 and AR5	Intergovernmental Panel on Climate Change Fourth Assessment Report and Fifth Assessment Report
B	BAP	Base Annual Production
	BBAWRA	Big Bear Area Wastewater Regional Agency
	BBCS	Bird and Bat Conservation Strategy
	BCRs	Bird conservation regions
	BESS	Battery energy storage system
	BIOS	Biogeographic Information and Observation System
	BGS	Below Ground Surface
	BLM	Bureau of Land Management
	BMPs	Best Management Practices
	BRC	BRC-Equals 3, Inc.
	BRTR	Biological Resources Technical Report
C	CAAQS	California Ambient Air Quality Standards
	CalARP	California Accidental Release Prevention Program
	Cal-EPA	California Environmental Protection Agency
	Caltrans	California Department of Transportation
	CAPCOA	California Air Pollution Control Officers Association
	CARB	California Air Resources Board
	CASGEM	California Statewide Groundwater Elevation Monitoring

	CCSC	California Species of Special Concern
	CDC	Center for Disease Control and Prevention
	CDCA	California Desert Conservation Area
	CDFW	California Department of Fish and Wildlife
	CDOC	California Department of Conservation
	CDP	Census Designated Places
	CDPA	California Desert Protection Act
	CDPH	California Department of Public Health
	CDWR	California Department of Water Resources
	CEC	California Energy Commission
	CEHC	California Essential Habitat Connectivity
	CEQA	California Environmental Quality Act
	CESA	California Endangered Species Act
	CFR	Code of Federal Regulations
	CGS	California Geological Survey
	CHP	California Highway Patrol
	CMA	Conservation and Management Action
	CMRS	County Maintained Road System
	CNDDB	California Natural Diversity Database
	CNEL	Community Noise Equivalent Level
	CNPS	California Native Plant Society
	CO	Carbon monoxide
	CO_2	Carbon dioxide
	CO_2e	Carbon dioxide equivalent
	CPUC	California Public Utilities Commission
	CRHR	California Register of Historical Resources
	CRMP	Cultural Resource Monitoring Plan
	CRPR	California Rare Plant Rank
	CRS	Cultural Resources Specialist
	CRT	Cathode ray tube
	CSLC	California State Lands Commission
	CT	California Threatened Species
	CTCP	Construction Traffic Control Plan
	CWA	Clean Water Act
D	Db	decibel
	dBA	A-weighted decibels
	DC	Direct current
	DCP	Dust Control Plans
	DEHS	Division of Environmental Health Services
	DEPM	Division of Environmental Planning and Management
	DFA	Development Focus Area
	DHS	Department of Health Services
	DMR	Division of Mine Reclamation
	DPM	diesel particulate matter

	DRECP	Desert Renewable Energy Conservation Plan
	DTSC	Department of Toxic Substances Control
	DWMA	Desert Wildlife Management Area
	DWR	Department of Water Resources
E	EA	Environmental Assessment
	ECOS	Environmental Conservation Online System
	ECSZ	Eastern California Shear Zone
	EHC	Environmental Health Criteria
	EIR	Environmental Impact Report
	EMF	Electric and magnetic fields
	EOC	Emergency Operations Center
	EOP	Emergency Operations Plan
	EPA	Environmental Protection Agency
	ESA	Environmentally Sensitive Area
F	FAA	Federal Aviation Administration
	FEMA	Federal Emergency Management Agency
	FHSZ	Fire hazard severity zones
	FHWA	Federal Highway Administration
	FMP	Field Management Plan
	FMPP	Fire Management and Prevention Plan
	FP	California Department of Fish and Wildlife fully protected species
	FPA	Free Production Allowance
	FRAs	Federal Responsibility Areas
	FS	Fire Safety
	FT	Federally Threatened
	FTA	Federal Transit Administration
	FUDS	Formerly Used Defense Sites
	FVGB	Fifteenmile Valley groundwater basin
G	GHG	greenhouse gas
	GLO	General Land Office
	GO	General Order
	GSWC	Golden State Water Company
	GWP	global warming potential
H	HFC	hydrofluorocarbon
	HVAC	Heating, Ventilation, and Air Conditioning
	Hz	hertz
I	I-15	Interstate 15
	IARC	International Agency for Research on Cancer
	ICF	ICF International
	IEEE	Institute of Electrical and Electronic Engineers
	IEPR	Integrated Energy Policy Report
	IM	Instruction Memorandum

	IPAC	Information for Planning and Consultation
	IPCC	Intergovernmental Panel on Climate Change
	IRWMP	Integrated Regional Water Management Plan
	IWMP	Integrated Weed Management Plan
L	L50	A-weighted noise levels that are exceeded 50 percent of the time, during the measurement period
	LADWP	Los Angeles Department of Water and Power
	LAMP	Local Agency Management Program
	LCFS	Low Carbon Fuel Standard
	L_{dn}	day/night noise level
	LED	Light-emitting diode
	L_{eq}	equivalent noise level
	L_{max}	maximum noise level
	LOS	Level of Service
	LPS	Low-pressure sodium
	LSAA	Lake and Streambed Alteration Agreement
	LTR	License Termination Rule
	LUPA	Land Use Plan Amendment
	LVCAG	Lucerne Valley Community Action Guide
	LVCP	Lucerne Valley Community Plan
	LVGB	Lucerne Valley groundwater basin
M	M	Moment Magnitude
	Ma	Million years ago
	MCL	Maximum contaminant level
	MD	Munitions debris
	MDAQMD	Mojave Desert Air Quality Management District
	MEC	Munitions and explosives of concern
	MET	Meteorological
	MGD	million gallons per day
	MGS	Mohave ground squirrel
	MJHMP	Multi-Jurisdictional Hazard Mitigation Plan
	MLD	most likely descendant
	MM	Mitigation Measure
	MMP	Mitigation Monitoring Program
	MSHCP	Multi-Species Habitat Conservation Plan
	MWA	Mojave Water Agency
	MW	megawatt
N	NAAQS	National Ambient Air Quality Standards
	NAHC	Native American Heritage Commission
	NAWS	Naval Air Weapons Station
	NBMP	Nesting Bird Management Plan
	NCCP	Natural Community Conservation Plan
	NDAI	No Department of Defense Action Indicated

	NERC	North American Electrical Reliability Corporation
	NEPA	National Environmental Policy Act
	NESC	National Electrical Safety Code
	NOAA	National Oceanic and Atmospheric Administration
	NO_2	nitrogen dioxide
	NOP	Notice of Preparation
	NO_x	oxides of nitrogen
	NPDES	National Pollutant Discharge Elimination System
	NRCS	National Resource Conservation Service
	NRHP	National Register of Historic Places
	NTC	National Training Center
O	OEHHA	Office of Environmental Health Hazard Assessment
	OES	Office of Emergency Services
	OHV	Off-Highway Vehicle
	OHVRAs	Off-Highway Vehicle Recreation Areas
	OPR	Office of Planning and Research
	OSHA	Occupational Safety and Health Administration
	OTWS	Onsite Wastewater Treatment Systems
P	PBR	Precision Bombing Range
	PDP	Preliminary Development Plan
	PFCs	perfluorocarbons
	PFYC	Potential Fossil Yield Classification
	PGAs	Peak ground accelerations
	PM	particulate matter
	PM10	PM less than 10 micrometers in diameter
	PM2.5	PM less than 2.5 micrometers in diameter
	POI	Point of interconnect
	ppm	parts per million
	PPV	peak particle velocity
	PSHA	Probabilistic Seismic Hazard Assessment
	PSY	Production Safe Yield
	PTO	Permit to Operate
	PV	Photovoltaic
R	R/LM	Resource/Land Management
	RCNM	Roadway Construction Noise Model
	RCRA	Resource Conservation and Recovery Act
	RECE	Renewable Energy and Conservation Element
	RI/FS	Remedial investigation/feasibility study
	RMS	Root mean square
	RMZs	Recreation Management Zones
	ROD	Record of Decision
	ROG	Reactive organic gases
	ROW	Right-of-way

	RPS	Renewables Portfolio Standard
	RV	Recreational vehicle
	RWQCB	Regional Water Quality Control Board
S	SA	State Special Animal
	SANBAG	San Bernardino Associated Governments
	SB	Senate Bill
	SBCFD	San Bernardino County Fire Department
	SBCM	San Bernardino County Museum
	SCADA	Supervisory control and data acquisition
	SCAG	Southern California Association of Governments
	SCCIC	South Central Coastal Information Center
	SCE	Southern California Edison Company
	SCS	Sustainable Communities Strategy
	SGMA	Sustainable Groundwater Management Act
	SO_2	sulfur dioxide
	SPCC	Spill Prevention Control and Countermeasure
	SR-247	State Route 247
	SRMA	Special Recreation Management Area
	SRP	Salvage and Relocation Plan
	SRRE	Source Reduction Recycling Element
	SSURGO	Soil Survey Geographic
	SSC	California Species of Special Concern
	ST	State Threatened
	SWGS	Solid Waste Generation Study
	SWPPP	Stormwater Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
T	TACs	toxic air contaminants
	TCA	Tortoise conservation area
	TCRs	Tribal cultural resources
U	USACE	U.S. Army Corps of Engineers
	USDA	U.S. Department of Agriculture
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service
	USGS	U.S. Geological Survey
	UST	underground storage tank
	UXO	Unexploded Ordnance
V	VAAF	Victorville Army Air Field
	VMT	Vehicle miles traveled
	VOC	Volatile organic compounds
	VPL	Variance Process Land
	VVTA	Victor Valley Transit Authority
W	WEAP	Worker Environmental Awareness Program
	WHO	World Health Organization

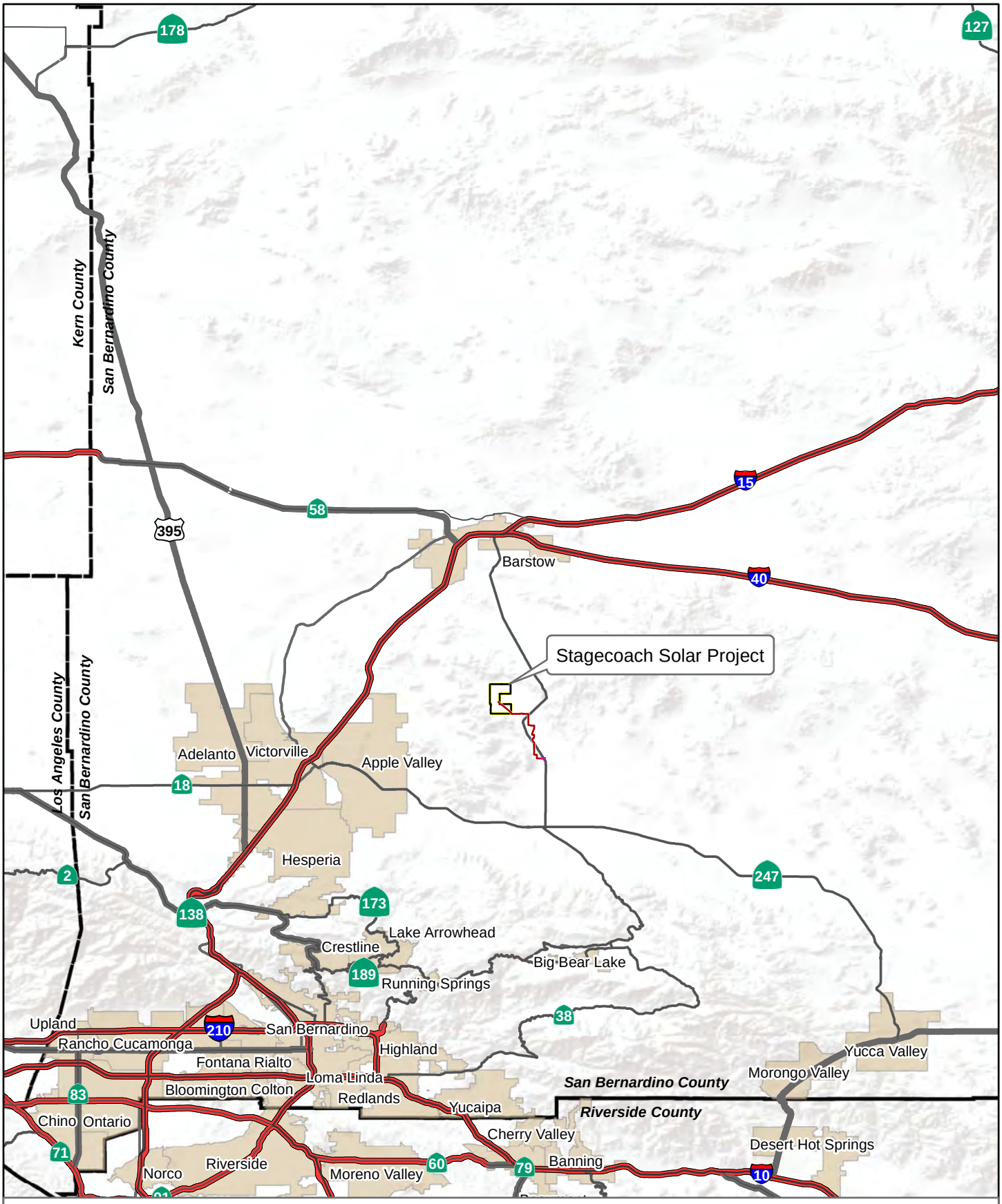
BACKGROUND, PROJECT LOCATION, AND PROJECT SCOPE

The California State Lands Commission (CSLC), as lead agency under the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.), has prepared this Environmental Impact Report (EIR) for the proposed Stagecoach Solar Project (Proposed Project). Aurora Solar, LLC (Aurora Solar or Applicant), a wholly owned subsidiary of Avangrid Renewables, has applied to the CSLC for a lease of State-owned school lands managed by the CSLC on which to construct and operate the Proposed Project, a solar energy generation project located in San Bernardino County, approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley. The Proposed Project would generate up to 200 megawatts (MW) of solar energy using photovoltaic (PV) and battery storage technologies. Collectively, the Stagecoach Facilities would include the solar arrays, ancillary project facilities, a battery energy storage system (BESS), and a 220 kilovolt (kV) electrical generation intertie (gen-tie) line. The Project area and design details are illustrated in Figure ES-1 (Stagecoach Solar Project Region), Figure ES-2 (Proposed Project [Overview]), and Figure ES-3 (Proposed Project [Solar Generation Plant]).

The purpose of this EIR is to identify the significant impacts on the environment of the Proposed Project, identify the alternatives to the Proposed Project, and indicate the manner in which those significant effects can be mitigated or avoided (Pub. Resources Code, § 21002.1, subd. (a)). This EIR is intended to provide the CSLC with information required to exercise its jurisdictional responsibilities with respect to the issuance of a lease for the Proposed Project (to be considered at a noticed public meeting). Responsible agencies can use the information in a certified EIR in exercising their jurisdictional or regulatory responsibilities related to the Proposed Project.

The proposed Stagecoach Facilities lease area covers 3,570 acres comprising six undeveloped parcels managed by the CSLC.[1] Within the 3,570-acre area, approximately 1,975 acres would be occupied by the solar panels, ancillary project facilities, and BESS (collectively referred to as the Stagecoach Solar Generation Plant). The Stagecoach Gen-tie Line would run approximately 9.1 miles, connecting the Stagecoach Solar Generation Plant to the Southern California Edison (SCE) Calcite Substation proposed by SCE.

[1] Assessor Parcel Numbers (APNs) 046-430-101, 046-430-102, 046-430-104, 046-430-105, 041-716-254, 041-716-253.



Source: Dudek

Figure ES-1

0 5 10 Miles

Stagecoach Solar Project Region

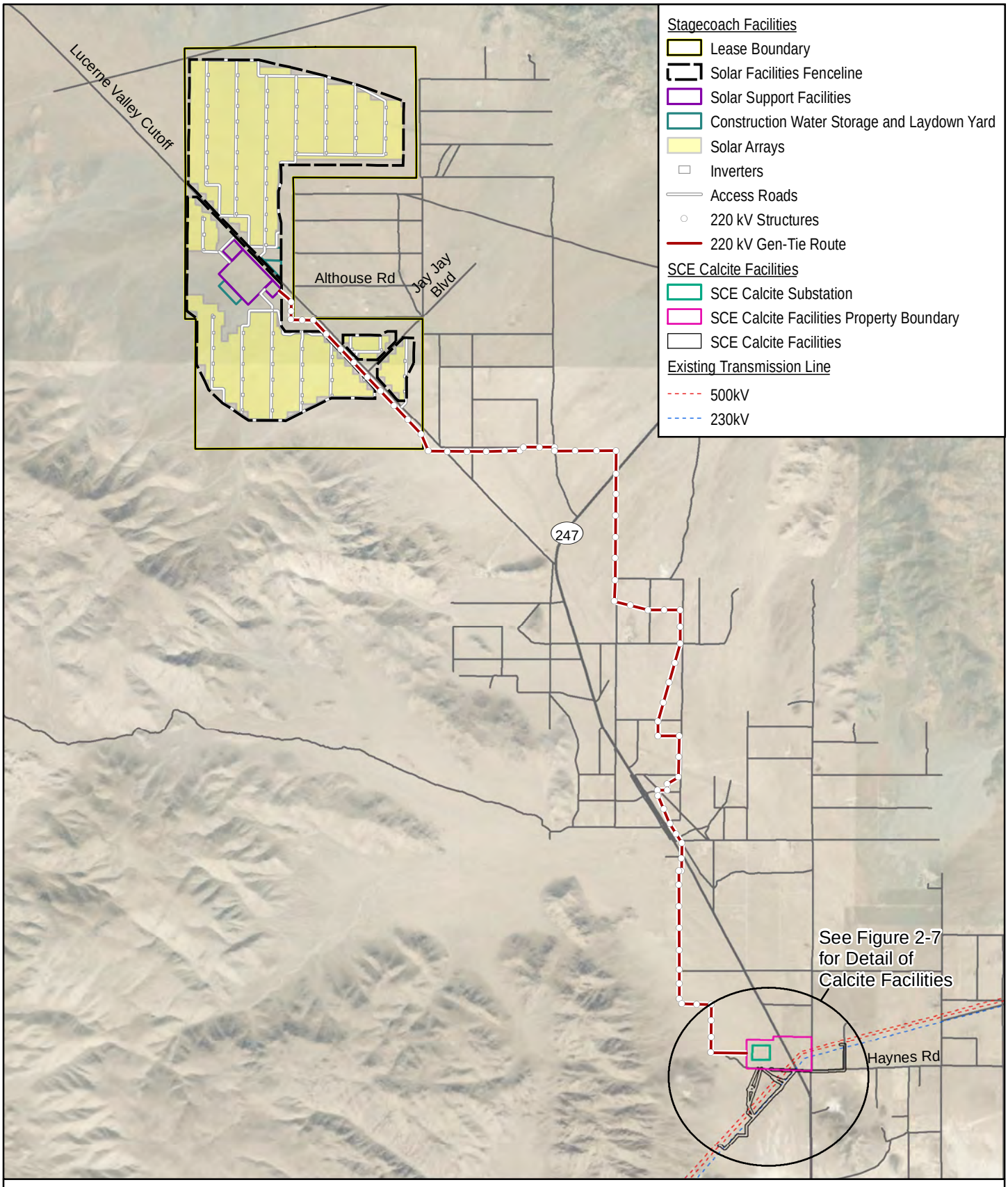


Figure ES-2

Proposed Project (Overview)

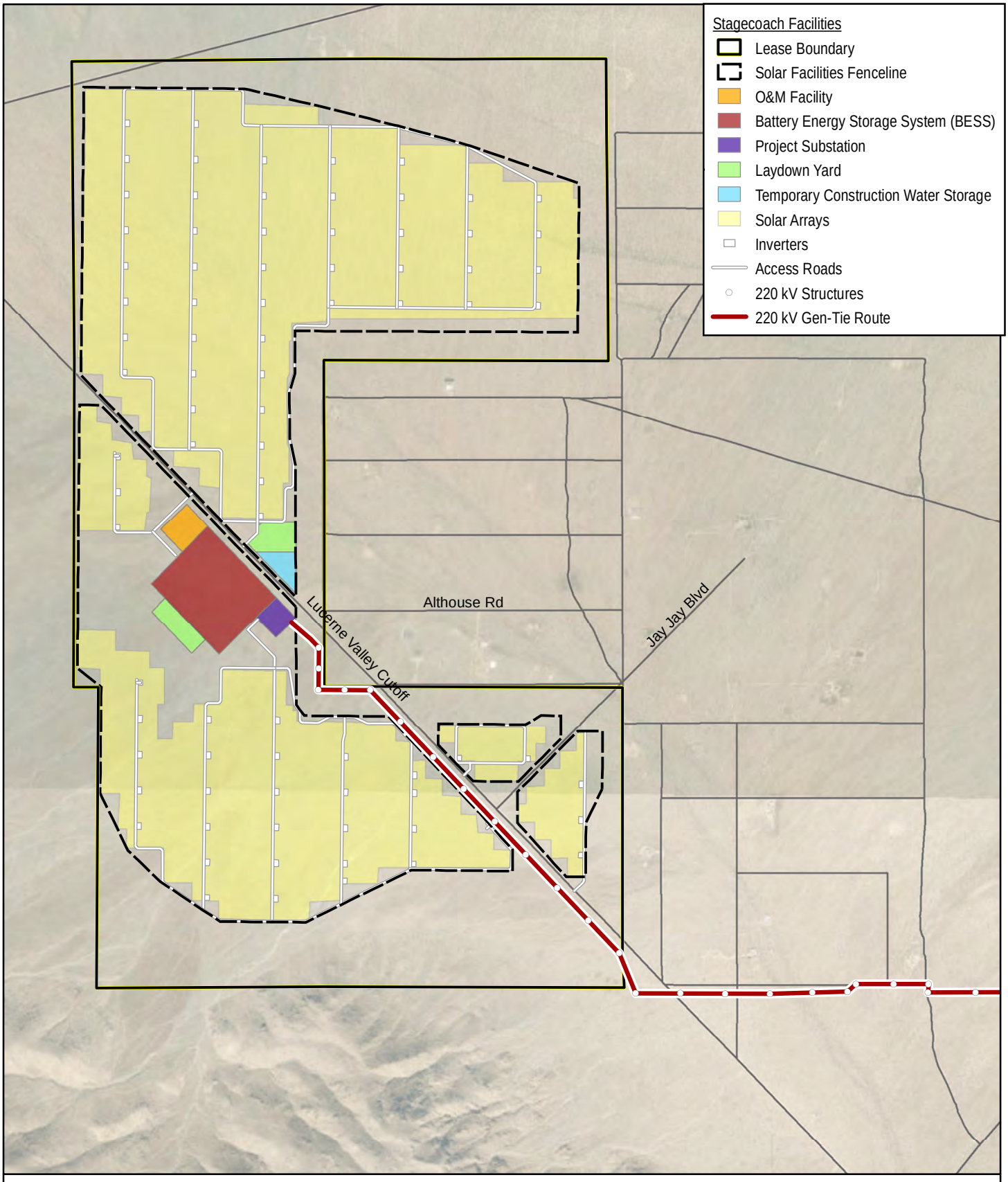


Figure ES-3

Proposed Project (Solar Generation Plant)

This EIR also evaluates the proposed SCE Calcite Facilities that would be used to interconnect electrical generation facilities in the region to the SCE electrical system. It would be designed, constructed, owned, operated, and maintained by SCE and falls under the permitting jurisdiction of the California Public Utilities Commission (CPUC), which would use this EIR to evaluate impacts of the SCE Calcite Facilities. Among other authorizations and approvals, the SCE Calcite Facilities would require a discretionary Permit to Construct from the CPUC. Because this substation is needed to deliver electricity from the Stagecoach Facilities, construction and operation of the proposed SCE Calcite Facilities, including the SCE Calcite Substation and associated interconnection equipment, are considered part of the Proposed Project for purposes of environmental review. The SCE Calcite Facilities are shown on Figure ES-2.

PROPOSED PROJECT DESCRIPTION

Stagecoach Facilities

The Proposed Project would include the following primary components:

- Solar PV modules (also referred to as solar panels) and inverters with generating capacity of up to 200 MW at the point of interconnect
- An underground and overhead 34.5 kV collection system linking the PV modules to the onsite collector substation
- A 5-acre 34.5 kV/220 kV substation within the Stagecoach Solar Generation Plant boundaries
- A 5,000-square-foot operations and maintenance (O&M) facility
- A BESS covering up to 56 acres and with approximately 200-800 MW hours of capacity
- New access roads within the fence line of the Proposed Project area
- New access roads to enter the Proposed Project area
- Fencing and site security systems
- Permanent groundwater wells or an on-site water tank using water transported from off-site for the O&M building and to facilitate washing of the PV modules
- An approximately 9.1-mile-long 220 kV generation intertie transmission line (Stagecoach Gen-tie Line) to interconnect the solar field to the proposed SCE Calcite Substation
- A fiber optic line from the Stagecoach Solar Generation Plant substation to the SCE Calcite Substation within the Stagecoach Gen-tie Line right-of-way (ROW; installed mostly underground, with a few overhead segments on wood poles)

Construction of the Stagecoach Facilities would take approximately 18 months. The operating life of the project is anticipated to be 40 years. Following operation, all facilities would be removed in accordance with a Decommissioning Plan filed with the CSLC.

SCE Calcite Facilities

The proposed SCE Calcite Facilities would be located on and adjacent to an approximately 75-acre parcel that extends on the west and east sides of State Route 247 (SR-247 or Barstow Road), directly north of Haynes Road, in San Bernardino County. The main components of the proposed SCE Calcite Facilities are:

- The SCE Calcite Substation with a 220 kV switchyard on approximately 7 acres along with approximately 4 additional acres for drainage, grading, and an access road
- Transmission structures to loop-in the Lugo-Pisgah No. 1 220 kV transmission line into SCE Calcite Substation adding a total of approximately 5,000 feet of new transmission line (two lines of approximately 2,500 feet located adjacent to one another, creating the Calcite-Lugo and Calcite-Pisgah 220 kV transmission lines)
- Structures to connect the Stagecoach Gen-tie Line into the SCE Calcite Substation
- Approximately 700 feet of 12 kV overhead distribution line and approximately 3,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to the SCE Calcite Substation) to provide temporary power for construction and permanent substation light and power
- Fiber optic communication cables, equipment, and associated structures for required duplication of communications systems. The telecommunication facilities would include a Remedial Action Scheme, which is a protective system providing rapid automated response to outages and unplanned system events.

SUMMARY OF PROJECT OBJECTIVES, PURPOSE, AND NEED

Aurora Solar's objectives for the Proposed Project are as follows:

- Establish reliable solar PV power-generating facilities in an economically feasible and commercially financeable manner that can be marketed to potential power purchasers
- Assist California utilities in meeting their obligations under California's Renewables Portfolio Standard (RPS). In September 2018, Governor Brown signed Senate Bill (SB) 100 (De León), Chapter 312, Statutes of 2018 (SB 100), which requires California electric utilities to generate at least 60 percent of their power from renewable resources and to mandate that the state obtain 100 percent of its electricity from carbon-free sources by 2045.

- Assist California in meeting greenhouse gas (GHG) emissions reduction goal as required by the California Global Warming Solutions Act (Assembly Bill (AB) 32, Gatto 2014), as amended by SB 32 in 2016, which establishes a target of GHG emissions reductions in the State to be 40 percent of 1990 levels by 2030
- Assist California in transitioning the transportation sector to zero-emission vehicles by 2035 under Executive Order N-79-20, signed by Governor Newsom on September 23, 2020
- Co-locate energy storage facilities of sufficient size and configuration to reliably store electricity in an economically feasible and commercially financeable manner to facilitate the integration of solar energy into the California Independent System Operator (CAISO) transmission grid
- Locate solar power plant and associated energy storage facilities as close as possible to electrical transmission facilities with anticipated capacity and available interconnection to the CAISO transmission grid
- Site the Proposed Project in an area with high solar insolation[2] in order to maximize productivity from the PV technology
- Use proven and available solar PV and energy storage technologies
- Create local short- and long-term employment and business opportunities in the region

SCE has proposed to build the SCE Calcite Facilities in response to an interconnection application from Aurora Solar, LLC.

CSLC MANAGEMENT OF SCHOOL LANDS

The CSLC is responsible for managing and enhancing State-owned School Lands in order to provide revenue for the California State Teachers' Retirement Fund. The CSLC is also required to identify new, sustainable, equitable, and responsible revenue streams, including consideration of project requests for proposals with desired revenue-generating activities like solar, geothermal, wind, and wave energy (CSLC 2021b). The CSLC is also committed to supporting State renewable energy goals. Therefore, the CSLC will review the Proposed Project for its ability to develop school lands into productive resource base that generates revenue (CSLC 2020). The long-term leasing of school lands for solar energy generation creates ongoing income for the California State Teachers' Retirement Fund.

[2] Insolation is a measure of solar radiation energy received on a given surface in a given time. It is commonly expressed as an average irradiance in watts per square meter (W/m2) or kilowatt-hours per square meter per day (kWh/m2/day). The region in which the Project is located receives greater than 5.75 kWh/m2/day of solar radiation energy, giving it a higher degree of solar radiation than most areas within the United States (NREL 2021).

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This EIR assesses the potentially significant impacts of the Proposed Project on the following environmental issue areas:

- Aesthetics/Light and Glare
- Air Quality
- Biological Resources
- Cultural Resources
- Cultural Resources – Tribal
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise and Vibration
- Paleontological Resources
- Population and Housing
- Public Services, Utilities, and Service Systems
- Recreation
- Traffic and Transportation
- Wildfire

Impacts within each affected environmental issue area are analyzed in relation to pertinent significance criteria. Impacts are classified as one of five categories.

- **Significant and Unavoidable:** A substantial or potentially substantial adverse change from the environmental baseline that meets or exceeds significance criteria, where either no feasible mitigation can be implemented, or the impact remains significant after implementation of mitigation measures
- **Less than Significant with Mitigation:** A substantial or potentially substantial adverse change from the environmental baseline that can be avoided or reduced to below applicable significance thresholds
- **Less than Significant:** An adverse impact that does not meet or exceed the significance criteria of a particular resource area and, therefore, does not require mitigation
- **Beneficial:** An impact that would result in an improvement to the physical environment relative to baseline conditions
- **No Impact:** A change associated with the Project that would not result in an impact to the physical environment relative to baseline conditions

The analysis in this EIR presents nearly 50 mitigation measures that would reduce the severity of the environmental impacts of the Proposed Project. Mitigation measures (MM) are listed in Table ES-1.

Table ES-1. List of Recommended Mitigation Measures	
MM #	**MM Title**
MM ALG-5	Minimize Night Lighting at Project Facilities
MM ALG-6	Surface Treatment and Design of Project Structures and Buildings
MM AQ-1a	Fugitive Dust Control
MM AQ-1b	Control On-Site Off-Road Equipment Emissions
MM BIO-1a	Implement Biological Monitoring
MM BIO-1b	Implement Worker Environmental Awareness Training
MM BIO-1c	Minimize Impact and Protect Identified Vegetation and Habitat
MM BIO-1d	Weed Management
MM BIO-1e	Revegetation
MM BIO-1f	Protect Important Plants
MM BIO-1g	Compensate for Loss of Natural Habitat
MM BIO-3a	Protect Wildlife Resources
MM BIO-3b	Relocate Special-status Wildlife Species
MM BIO-3c	Protect Desert Tortoise
MM BIO-3d	Protect Desert Kit Fox and American Badger
MM BIO-3e	Avoid Effects on Burrowing Owl
MM BIO-3f	Bird and Bat Protection
MM BIO-3g	Implement Protective Designs for Collector Line and Gen-tie Lines
MM CUL-1a	Retain a Cultural Resources Specialist
MM CUL-1b	Prepare and Implement a Cultural Resources Monitoring Plan
MM CUL-1c	Develop and Implement Cultural Resources Environmental Awareness Training
MM CUL-1d	Archaeological Monitoring
MM CUL-1e	Unanticipated Discoveries
MM CUL-1f	Monitoring Report
MM CUL-1g	Avoidance of Environmentally Sensitive Area
MM CUL-3	Treatment of Human Remains
MM TCR-1a	Tribal Monitoring
MM TCR-1b	Treatment of Cultural Resources
MM GEO-5	Prepare Desert Pavement Assessment
MM GEO-7	Assess Unsuitable Soils
MM HAZ-1	Hazardous Materials Training and Management Plan
MM HAZ-2	Unexploded Ordnance (UXO) Identification, Training, and Reporting Plan

Table ES-1. List of Recommended Mitigation Measures	
MM #	**MM Title**
MM HAZ-3a	Aerially Deposited Lead Testing Program
MM HAZ-3b	Soil and Groundwater Management Plan
MM HAZ-5a	Limit the Conductor Surface Gradient
MM HAZ-5b	Document and Resolve Electronic Interference Complaints
MM HAZ-5c	Implement Grounding Measures
MM HWQ-2	Prepare & Implement Groundwater Monitoring and Reporting Plan (Mitigation for cumulative impact)
MM HWQ-3	Drainage Plan Development
MM NOI-1a	Construction Restrictions
MM NOI-1b	Public Notification Process
MM NOI-1c	Noise Complaint Process
MM NOI-1d	Operational Noise Performance Standard
MM PAL-1a	Paleontological Worker Environmental Awareness Program
MM PAL-1b	Unanticipated Fossil Discovery
MM TRA-1	Construction Traffic Control Plan
MM TRA-3a	Repair Roadways Damaged by Construction Activities
MM TRA-3b	Gen-tie Access Road Design Approval
MM WIL-1	Expand Fire Management and Prevention Plan
SCE Applicant Proposed Measures (APMs) for SCE Calcite Facilities Only (All have been superseded by Biological Resources mitigation measures listed above)	
BIO-GEN-1	Pre-construction biological clearance surveys and monitoring
ENV-GEN-1	Worker's Environmental Awareness Training Program
BIO-AVI-1	Avian-Safe Design
BIO-HERP-1	Desert Tortoise
BIO-MAM-1	Mohave Ground Squirrel

With the implementation of mitigation measures identified in this EIR, most impacts would be reduced to Less than Significant. However, even with implementation of these measures, the Proposed Project would result in the following significant and unavoidable environmental impacts that cannot be mitigated to less than significant levels. Each impact is noted as a short-term (construction) impact or long-term (operational) impact.

<u>Significant and Unavoidable Impacts: Stagecoach Facilities</u>

- **Aesthetics/Light and Glare Impact ALG-2:** Creation of visual contrast due to vegetation removal (long-term impact)

- **Aesthetics/Light and Glare Impact ALG-6:** Long-term presence of the Proposed Project would result in landscape changes that degrade existing visual character or quality (long-term impact)
- **Air Quality Impact AQ-1:** Air pollutant emissions from construction and O&M (short-term construction impact from PM10)
- **Air Quality Impact AQ-3:** Exposure of sensitive receptors to substantial pollutants concentrations (short-term construction impact from criteria air pollutants and toxic air contaminants)
- **Cultural Resources Impact CUL-1:** The Proposed Project (gen-tie line only) could cause a substantial adverse change in the significance of a historical resource pursuant to State California Environmental Quality Act (CEQA) Guidelines[3] section 15064.5 (long-term indirect effect)
- **Energy Impact EN-2:** The Stagecoach Solar Generation Plant and Gen-tie Line would conflict with or obstruct a State or local plan for renewable energy or energy efficiency (County's adopted Renewable Energy and Conservation Element)
- **Land Use and Planning Impact LU-2:** The Stagecoach Solar Generation Plant and Gen-tie Line would conflict with the County's adopted Renewable Energy and Conservation Element
- **Public Services, Utilities, and Service System Impact PSU-1**: The County's population would not increase due to construction and operation of the Stagecoach Facilities, and they would not create the need for new public service facilities. However, emergency response times may be severely inhibited by construction traffic (short-term impact during construction).
- **Traffic and Transportation Impact TRA-1:** Proposed Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system (short-term impact during construction)
- **Traffic and Transportation Impact TRA-4:** Proposed Project activities would affect emergency vehicle response (short-term impact during construction)

<u>Significant and Unavoidable Impacts: SCE Calcite Facilities</u>

- **Aesthetics/Light and Glare Impact ALG-6:** Long-term presence of the Proposed Project would result in landscape changes that degrade existing visual character or quality (long-term impact)
- **Air Quality Impact AQ-1:** Air pollutant emissions from construction and O&M (short-term construction impact from PM10)

[3] The "State CEQA Guidelines" refers to California Code of Regulations, Title 14, Chapter 3.

- **Energy Impact EN-2:** The SCE Calcite Facilities would conflict with or obstruct a State or local plan for renewable energy or energy efficiency (the County's adopted Renewable Energy and Conservation Element)
- **Land Use and Planning Impact LU-2:** The SCE Calcite Facilities would conflict with the County's adopted Renewable Energy and Conservation Element
- **Public Services, Utilities, and Service System Impact PSU-1**: (If constructed concurrently with the Stagecoach Facilities) The County's population would not increase due to construction and operation of the SCE Calcite Facilities, and they would not create the need for new public service facilities. However, emergency response times may be severely inhibited by construction traffic (short-term impact during construction).
- **Traffic and Transportation Impact TRA-1:** (If constructed concurrently with the Stagecoach Facilities) Traffic volumes associated with construction of the SCE Calcite Facilities would substantially affect the circulation system (short-term impact during construction)
- **Traffic and Transportation Impact TRA-4:** (If constructed concurrently with the Stagecoach Facilities) SCE Calcite Facilities construction activities would affect emergency vehicle response (short-term impact during construction)

All Project-related impacts and mitigation measures are summarized in Table ES-2a (Stagecoach Solar Generation Plant and Gen-tie Line) and Table ES-2b (SCE Calcite Facilities) presented at the end of this section. As described in Section 7.0, *Mitigation Monitoring Program,* CSLC staff or CSLC-contracted monitors will monitor all mitigation measures during implementation of the Mitigation Monitoring Program.

SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

CEQA requires identification and evaluation in an EIR of a reasonable range of alternatives to a Proposed Project. Pursuant to State CEQA Guidelines section 15126.6, subdivision (a), an EIR need only consider a reasonable range of feasible alternatives that will foster informed decision-making and public participation; therefore, while an EIR need not consider every conceivable alternative, an EIR must include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

The range of potential alternatives considered in this EIR is limited to those that would feasibly attain most of the Proposed Project objectives while avoiding or substantially reducing any of the significant effects of the Proposed Project. Alternatives that were considered but rejected are identified below and accompanied by brief, fact-based explanations of the reasons for rejection. Among the factors that may have been used to eliminate alternatives from detailed consideration, as permitted by CEQA, are: (1) a failure

to meet most of the Proposed Project objectives, (2) infeasibility, and (3) inability to avoid significant impacts (State CEQA Guidelines, § 15126.6, subd. (c)). Alternatives carried forward for analysis in this EIR are summarized below.

- **No Project Alternative:** The Applicant's request for a CSLC lease would not be approved. No solar development would occur on State-owned land, and the gen-tie line would not be constructed. However, the SCE Calcite Facilities could still be constructed if the CPUC determines that the substation has value even in the absence of the Stagecoach Facilities.
- **Joshua Tree Avoidance Alternative:** In this alternative, the Stagecoach Solar Generation Plant would be reconfigured within the same State-owned land boundaries to minimize loss of the western Joshua tree. The Proposed Project would still generate 200 MW of electricity and the gen-tie would be unchanged. The SCE Calcite Facilities would still be constructed.
- **Underground Gen-tie Alternative in County Roads:** This alternative would eliminate the most severe aesthetic impacts of the proposed overhead gen-tie line by installing 6 miles of the gen-tie line underground in unpaved roads, while retaining 2.6 miles of the proposed overhead route. It would interconnect to either the proposed or alternative (see below) SCE Calcite Facilities locations.
- **Underground Gen-tie Alternative Along Proposed Route:** This underground alternative route would follow all or part of the route of the proposed overhead 220 kV gen-tie line. Either the entire 9.1-mile-long route could be installed underground in the right-of-way (ROW) already acquired by the Applicant, or only the most visible northern segment could be installed underground, leaving the southern segment overhead, as proposed.
- **SCE Calcite Facilities Alternative:** An alternative location for the SCE Calcite Facilities would be on an approximately 40-acre property immediately northwest of the proposed substation site property. The alternative substation location would be similar in design to the proposed substation but would be approximately 1,000 feet northwest of the proposed site. The 220 kV lines connecting with the existing Lugo-Pisgah corridor would be about 2,600 feet longer than those required for the proposed site.

ALTERNATIVES NOT CONSIDERED FOR FULL EVALUATION

Several alternatives were considered but were determined to be infeasible, did not clearly offer the potential to reduce significant environmental impacts, or did not achieve most of the Proposed Project objectives. These alternatives were eliminated from further evaluation in the EIR and include the following (refer to Section 5.3 for explanation):

- San Bernardino County Areas of Trona, El Mirage, Amboy, Hinkley, Kramer Junction: Each area was evaluated for access to transmission, proximity to

residential areas, appropriate zoning or Bureau of Land Management (BLM) land designations, and other environmental concerns. The primary reasons for elimination are:

  - Trona: New 30-mile transmission line is required
  - El Mirage: BLM land designated for off-road vehicle use would be inconsistent with solar development and availability of private land is not known
  - Amboy: New transmission line would be required within National Monument, Congressionally designated Wilderness, or Mojave National Preserve
  - Hinkley: BLM Development Focus Areas are too small for 200 MW of solar facilities and availability of private land is not known
  - Kramer Junction: BLM cannot currently accept development applications due to Mohave ground squirrel protection requirements

- BLM Land Exchange: Infeasible due to lengthy agency processes with uncertain conclusions
- Overhead Gen-tie on BLM Land Alternative: Infeasible due to BLM land designations that prohibit new transmission rights-of-way
- SR-247 Underground Gen-tie Alternative: Infeasible because rights would have to be obtained from Caltrans and all other landowners, which is unlikely

COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES AND ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines require the consideration of a “no project” alternative and to identify, under specific criteria, an “environmentally superior” alternative. If the environmentally superior alternative is determined to be the no project alternative, the EIR must identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines, § 15126.6, subd. (e)(2)). Three tables (presented at the end of this section) compare the Proposed Project impacts with those of the alternatives:

- Table ES-3a summarizes the comparison of the impacts of the proposed Stagecoach Solar Generation Plant with two alternatives
- Table ES-3b summarizes the comparison of the impacts of the proposed Stagecoach Gen-tie Line with three alternatives
- Table ES-3c summarizes the comparison of the proposed SCE Calcite Facilities with two alternatives

For a more detailed comparison of the Proposed Project and alternatives, see Section 6.6, *Comparison of Proposed Project and Alternatives and Environmentally Superior Alternative*. The alternatives are evaluated at a lesser level of detail but with sufficient

information to allow meaningful evaluation, analysis, and comparison to the Proposed Project, consistent with CEQA's requirements (State CEQA Guidelines, § 15126.6, subd. (d)).

Based on the analysis contained within this EIR, the CSLC has determined that the No Project Alternative would be environmentally superior for the solar generation plant, the gen-tie line, and the SCE Calcite Facilities, as it would avoid all direct impacts on the desert environment. However, the No Project Alternative would not support State goals of reducing greenhouse gas emissions from power generation using fossil fuels.

CEQA requires that if the No Project Alternative is environmentally superior, the lead agency should also define the alternative with the next best environmental preference. That preference is presented in Sections ES.7.1 through ES.7.3. The comparisons of alternatives for the solar generation plant, the gen-tie line, and the SCE Calcite Facilities are presented separately in those sections.

Chapter 4 of this EIR defines a wide range of impacts, including a number of significant and unavoidable impacts that cannot be avoided by the Proposed Project or the other alternatives. The No Project Alternative would avoid impacts from the construction, operation, maintenance, and decommissioning of the Proposed Project. However, the No Project Alternative would not realize the beneficial impacts of the Proposed Project relating to reduction of long-term air quality and greenhouse gas emissions through the use of renewable energy generation and replacement of fossil fuel generation. The No Project Alternative does not have the potential to meet any of the Project objectives.

Among the other alternatives for each project component, the Environmentally Superior Alternatives are as follows:

- For the solar generation plant, the Joshua Tree Avoidance Alternative would have reduced impacts in comparison with the Proposed Project
- For the gen-tie line, the Underground Gen-tie Alternative in County Roads would have the fewest impacts overall, primarily by eliminating the most severe aesthetics impacts of the gen-tie line and by using existing disturbed rights-of-way
- The SCE Calcite Facilities Alternative site is preferred over the proposed location due to its somewhat less visible location

Solar Generation Plant Alternatives

The impacts of the solar generation plant alternatives (Proposed Project and Joshua Tree Avoidance Alternative) are summarized in Table ES-3a. The identification of the Environmentally Superior Alternative is difficult because each alternative presents environmental trade-offs. All would result in similar impacts to air quality resulting from construction vehicles and dust, but other impacts are summarized as follows:

- The **Proposed Project** would create significant impacts in aesthetics and transportation/traffic. The project lease boundaries include approximately 578 Joshua trees, and the proposed footprint would affect over 100 acres of Joshua tree woodland, resulting in the loss of approximately 398 Joshua trees. Mitigation for this impact would result in permanent conservation of Joshua trees in other locations. While construction noise impacts would be less than significant with recommended mitigation, there are approximately 11 residences within 1,000 feet of the State lease boundary.
- The **Joshua Tree Avoidance Alternative** would be within the same State-managed land lease boundary but would be configured differently. This alternative would create similar impacts to aesthetics, transportation/traffic, and nearby residences as the Proposed Project. This design would reduce the loss of western Joshua trees by about 80 percent compared with the Proposed Project (resulting in a loss of approximately 160 Joshua trees, 238 fewer than the Proposed Project). Impacts to nearby residences would be very similar to those of the Proposed Project.

Gen-tie Line Alternatives

The impacts of the gen-tie line alternatives (Proposed Project, Underground Gen-tie Alternative in County Roads, and Underground Gen-tie Alternative Along Proposed Route) are summarized in Table ES-3b. As with the solar generation plant, each alternative presents environmental trade-offs. All gen-tie alternatives would contribute to significant construction traffic impacts. Most other impacts would also be similar to impacts of the proposed gen-tie line, but impacts with important differences are summarized as follows:

- The **Proposed Stagecoach Gen-tie Line** would create significant and unavoidable impacts to aesthetics due to the installation of a highly visible high voltage transmission line in the mostly undeveloped Lucerne Valley area. The line would cross SR-247 twice and would wind through low density residential areas east of the highway. It would also require construction of a new 9-mile access road.
- The **Underground Gen-tie Alternative in County Roads** would eliminate 6 miles of highly visible overhead transmission line between the solar generation plant and the SCE Calcite Substation. It would increase construction activity and ground disturbance along its route, affecting nearby residences. Impacts to biological and cultural resources may be less severe than the Proposed Project because it would require construction of a new access road, and this alternative would be installed underground in unpaved roads, most of which have already been graded. Installation cost would be much greater, and maintenance of an underground gen-tie line would be more difficult due to the limited access to the buried conductors.

- The **Underground Gen-tie Alternative Along Proposed Route** would eliminate either a portion, or all of the 9 miles of highly visible overhead line between the solar generation plant and the SCE Calcite Substation, following the path of the Applicant's private land gen-tie. Like the County roads alternative described above, the alternative would have greater construction impacts to nearby residents. It would require greater construction disturbance in undisturbed lands because it would not be installed below existing unpaved roads. Installation cost would be even greater than the Underground Gen-tie Alternative in County Roads due to the additional length. Maintenance of an underground gen-tie line is more difficult due to the limited access to the buried conductors.

SCE Calcite Facilities Alternative

The impacts of the SCE Calcite Facilities alternatives (Proposed Project, SCE Calcite Facilities Alternative) are summarized in Table ES-3c. The two sites are very similar, but the impact with the most notable difference is summarized as follows:

- The **Proposed SCE Calcite Substation** would be nearly adjacent to SR-247, in a currently undeveloped area about 1,000 feet north of the existing Lugo-Pisgah transmission corridor. The aesthetic impact of this facility would be significant and unavoidable.
- The **SCE Calcite Facilities Alternative** substation site is farther from SR-247. The aesthetic impact would also be significant, but, given the greater distance from the highway and the backdrop of the Granite Mountains, its visual impact would be less than that of the proposed site. Other impacts would be very similar to those of the proposed site.

KNOWN AREAS OF CONTROVERSY OR UNRESOLVED ISSUES

State CEQA Guidelines section 15123, subdivision (b)(2) requires EIRs to contain a brief summary of areas of known controversy including issues raised by agencies and the public. The public has expressed a wide range of concerns about the proposed Stagecoach Facilities and the SCE Calcite Facilities. During public scoping for the Proposed Project, Agencies and the public defined the following major concerns:

- San Bernardino County's Renewable Energy and Conservation Element of the General Plan (2020 County Policy Plan) would not permit this solar project if it were on private land
- The Proposed Project would impact desert tortoise (*Gopherus agassizii)* and other sensitive species. The undeveloped site is in a natural condition and occupied with desert tortoise and other sensitive species. The Proposed Project would result in loss of habitat and potentially death or injury to sensitive wildlife due to construction and operation vehicles.

- The Proposed Project may block wildlife movement corridors. The Proposed Project would block a portion of defined movement corridors for desert tortoise and other wildlife.
- Construction of the SCE Calcite Facilities could induce other growth in the area. The construction of the SCE Calcite Facilities could facilitate other future projects because the cost of the substation itself would have been paid by the Stagecoach developers.
- The Proposed Project would impact scenic views along SR-247, a State-Eligible Scenic Highway and County-Designated Scenic Highway
- Environmental justice is a concern in this lower income community, so it should be analyzed in detail
- The Apple Valley Multi-Species Habitat Conservation Plan is being prepared and the Proposed Project would conflict with its goals
- Ground disturbance would result in windblown dust and soil erosion. Uncontrolled dust could expose people to Valley Fever spores.
- Availability of groundwater is constrained, and the Proposed Project would require a large amount of water for dust control
- Greenhouse gas emissions from the Proposed Project could result from conversion of land from open space and vehicle emissions

Appendix C, *Index to Public Scoping Comments*, identifies concerns raised during the EIR scoping period, which include potential effects to the desert environment, effects on biological resources, and impacts related to environmental justice, noise, and dust.

ORGANIZATION OF THE EIR

The EIR is presented in nine sections:

- **Section 1.0 – Introduction** provides background on the Proposed Project and the CEQA process
- **Section 2.0 – Project Description** describes the proposed lease area, Proposed Project elements and activities, and schedule
- **Section 3.0 – Cumulative Projects** identifies the projects that are analyzed for potential cumulative effects and the EIR's approach to cumulative impact analysis
- **Section 4.0 – Environmental Impact Analysis** describes existing environmental conditions, Proposed Project-specific impacts, mitigation measures, and residual effects for individual environmental issue areas, and evaluates cumulative impacts

- **Section 5.0 – Project Alternatives Analysis** describes the alternatives screening methodology, alternatives rejected from full consideration, and alternatives carried forward for analysis and the impacts of those alternatives
- **Section 6.0 – Other Required CEQA Sections and Environmentally Superior Alternative** addresses other required CEQA elements, including significant and irreversible environmental and growth-inducing impacts, comparison of the Proposed Project and alternatives, and identification of the environmentally superior alternative
- **Section 7.0 – Mitigation Monitoring Program** describes the monitoring authority, enforcement and mitigation compliance responsibilities, and general monitoring procedures, and presents the mitigation monitoring table
- **Section 8.0 – Environmental Justice** describes existing conditions and Project-related effects related to environmental justice
- **Section 9.0 – Report Preparation Sources and References** lists the persons involved in preparation of the EIR and the reference materials used

The following nine appendices are provided:

- **Appendix A** contains an abridged list of major federal and state laws, regulations, and policies potentially applicable to the Proposed Project organized by issue area
- **Appendix B** contains the Draft EIR distribution list
- **Appendix C** includes scoping information, including a copy of the Notice of Preparation (NOP), comment letters received in response to the NOP, scoping hearing transcripts, and an index to where each NOP comment is addressed in the Draft EIR
- **Appendix D** contains the Stagecoach Water Supply Assessment
- **Appendix E** presents the detailed description of the SCE Calcite Facilities
- **Appendix F** contains the Biological Resources Technical Report (with attachments including Preliminary Jurisdictional Delineation Report, Mohave Ground Squirrel Habitat Assessment, Golden Eagle Habitat Assessment, Joshua Tree inventory summary memo). This appendix also includes the biological resources information related to the SCE Calcite Facilities.
- **Appendix G** includes the public version of the Cultural Resources Technical Report (confidential appendices are omitted)
- **Appendix H** includes the Air Quality and Greenhouse Gas Emissions Calculations
- **Appendix I** presents calculations for Noise impacts

Summary Tables following this page include**:**

- **Table ES-2a:** Summary of Impacts and Mitigation: Proposed Stagecoach Facilities

- **Table ES-2b:** Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities
- **Table ES-3a:** Summary of Impacts: Proposed Project and Alternatives – Solar Generation Plant Only
- **Table ES-3b:** Summary of Impacts: Proposed Project and Alternatives – Gen-tie Line Only
- **Table ES-3c:** Summary of Impacts: Proposed Project and Alternatives – SCE Calcite Facilities Only

Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.1 AESTHETICS		
Impact ALG-1: Introduction of visually discordant construction equipment, vehicles, materials, and workforce	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM TRA-1:** Construction Traffic Control Plan
Impact ALG-2: Creation of visual contrast due to vegetation removal	**SU**	**MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1e:** Revegetation
Impact ALG-3: Creation of visual contrast associated with the marking of natural features	**LTSM**	**MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat
Impact ALG-4: Creation of visual contrast associated with fugitive dust, waste, and trash	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM BIO-3a:** Protect Wildlife Resources
Impact ALG-5: Creation of new sources of substantial light or glare such as nighttime illumination	**LTSM**	**MM ALG-5:** Minimize Night Lighting at Project Facilities
Impact ALG-6 (Solar Generation Plant): Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality	**SU**	**MM ALG-6:** Surface Treatment and Design of Project Structures and Buildings **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1e:** Revegetation
Impact ALG-6 (Gen-tie Line): Long-term presence of the Stagecoach Gen-tie Line would result in landscape changes that degrade existing visual character or quality	**SU**	**MM ALG-6:** Surface Treatment and Design of Project Structures and Buildings

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.2 AIR QUALITY		
Impact AQ-1: Air pollutant emissions from construction and O&M	**SU**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-2: Consistency with regional air quality plans	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-3 (Solar Generation Plant): Exposure of sensitive receptors to substantial pollutant concentrations	**SU**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-3 (Gen-tie Line): Exposure of sensitive receptors to substantial pollutant concentrations	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-4: Creation of objectionable odors affecting a substantial number of people	**LTS**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.3 BIOLOGICAL RESOURCES		
Impact BIO-1: Substantially reduce habitat for a fish or wildlife species	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact BIO-2 (Solar Generation Plant): Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-2 (Gen-tie Line): Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-3 (Solar Generation Plant): Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3d:** Protect Desert Kit Fox and American Badger **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines **MM NOI-1a:** Construction Restrictions **MM ALG-5:** Minimize Night Lighting at Project Facilities **MM TRA-1:** Construction Traffic Control Plan

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-3 (Gen-tie Line): Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3d:** Protect Desert Kit Fox and American Badger **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines **MM NOI-1a:** Construction Restrictions **MM ALG-5:** Minimize Night Lighting at Project Facilities **MM TRA-1:** Construction Traffic Control Plan

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-4 (Solar Generation Plant): Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-4 (Gen-tie Line): Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines
Impact BIO-5: Create a substantial collision and electrocution risk for birds or bats	**LTSM**	**MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-6 (Solar Generation Plant): Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat
Impact BIO-6 (Gen-tie Line): Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**NI**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-7 (Solar Generation Plant): Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-7a:** Protect Streambeds and Watersheds **MM HAZ-1:** Hazardous Materials Training and Management Plan

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-7 (Gen-tie Line): Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-7a:** Protect Streambeds and Watersheds **MM HAZ-1:** Hazardous Materials Training and Management Plan

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-8 (Solar Generation Plant): Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-8 (Gen-tie Line): Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-9: Conflict with local policies or ordinances protecting biological resources	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines **MM BIO-7a:** Protect Streambeds and Watersheds
Impact BIO-10: Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	**NI**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.4 CULTURAL RESOURCES		
Impact CUL-1 (Solar Generation Plant): The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, section 15064.5	**LTSM**	**MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Cultural Resources
Impact CUL-1 (Gen-tie Line): The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, section 15064.5	**SU**	**MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Cultural Resources

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact CUL-2: The Project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines, section 15064.5	**LTSM**	**MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Cultural Resources
Impact CUL-3: The Project could disturb human remains, including those interred outside of formal cemeteries	**LTSM**	**MM CUL-3:** Treatment of Human Remains

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.5 CULTURAL RESOURCES – TRIBAL		
Impact TCR-1 (Solar Generation Plant): Change the Significance of a Tribal Cultural Resource, as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historic Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Cultural Resources **MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM CUL-3:** Treatment of Human Remains

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact TCR-1 (Gen-tie Line): Change the Significance of a Tribal Cultural Resource, as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historic Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Tribal Cultural Resources **MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM CUL-3:** Treatment of Human Remains
SECTION 4.6 ENERGY		
Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and maintenance	**LTS**	Mitigation is not required but the following measures would be beneficial in improving efficiency of energy use: **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions **MM TRA-1:** Construction Traffic Control Plan
Impact EN-2: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency	**SU**	No mitigation available
SECTION 4.7 GEOLOGY AND SOILS		
Impact GEO-1: Damage or injury from fault rupture	**NI**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact GEO-2: Strong earthquake-induced ground shaking could result in damage to project structures and/or injury to people	**LTS**	No mitigation required
Impact GEO-3: Project structures could be damaged by seismically induced liquefaction phenomena	**LTS**	No mitigation required
Impact GEO-4: Seismically induced landslides or slope failures could damage project structures or expose workers to injury	**LTS**	No mitigation required
Impact GEO-5: Construction and operation of the Project could trigger or accelerate soil erosion	**LTSM**	**MM GEO-5:** Prepare Desert Pavement Assessment. **MM AQ-1a:** Fugitive Dust Control **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1e:** Revegetation **MM BIO-1g:** Compensate for Loss of Natural Habitat
Impact GEO-6: Slope failures, such as landslides, could be triggered by project construction	**LTS**	No mitigation required
Impact GEO-7: Unsuitable soils result in damage to project structures	**LTSM**	**MM GEO-7:** Assess Unsuitable Soils
Impact GEO-8: Soils could be incapable of supporting a Septic System	**LTS**	No mitigation required
SECTION 4.8 GREENHOUSE GAS EMISSIONS		
Impact GHG-1: GHG emissions from project activities	**LTS**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact GHG-2: Consistency with applicable GHG plan, policy, or regulation	**NI**	No mitigation required
SECTION 4.9 HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1: Spill or release of hazardous materials occurs during construction, operation, or maintenance of the Project	**LTSM**	**MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HAZ-2: Encountering unexploded ordnance or military munitions and explosives of concern (UXO or MEC)	**LTSM**	**MM HAZ-2:** Unexploded Ordnance (UXO) Identification, Training, and Reporting Plan
Impact HAZ-3: Unknown environmental contamination could be encountered during construction	**LTSM**	**MM HAZ-3a:** Aerially Deposited Lead Testing Program **MM HAZ-3b:** Soil and Groundwater Management Plan
Impact HAZ-4: Valley fever spores could be mobilized	**LTSM**	**MM AQ-1a:** Fugitive Dust Control
Impact HAZ-5 (Gen-tie Line): Gen-tie Line could cause interference with radio, television, communications, or electronic equipment	**LTSM**	**MM HAZ-5a:** Limit the Conductor Surface gradient **MM HAZ-5b:** Document and Resolve Electronic Interference Complaints **MM HAZ-5c:** Implement Grounding Measures
Issue HAZ-6 (Gen-tie Line): Electric and magnetic fields would be increased with presence of the Stagecoach Gen-tie Line	**NI**	Mitigation is not required, but the following is recommended: **Best Management Practice EMF-1:** Low-Cost EMF Reduction

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.10 HYDROLOGY AND WATER QUALITY		
Impact HWQ-1: The Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality	**LTSM**	**MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HWQ-2: The Proposed Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level	**LTS**	No mitigation required for impacts of Stagecoach Facilities. **MM HWQ-2:** Prepare and Implement Groundwater Monitoring and Reporting Plan (for cumulative impacts only)
Impact HWQ-3 (Solar Generation Plant): The Proposed Project would substantially alter existing drainage patterns by altering the course of a waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows.	**LTSM**	**MM HWQ-3:** Drainage Plan Development (not applicable to Stagecoach Gen-tie Line)
Impact HWQ-3 (Gen-tie Line): The Proposed Project would substantially alter existing drainage patterns by altering the course of a waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows.	**LTS**	No mitigation required
Impact HWQ-4 (Solar Generation Plant): The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**MM HWQ-3:** Drainage Plan Development **MM HAZ-1:** Hazardous Materials Training and Management Plan

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact HWQ-4 (Gen-tie Line): The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HWQ-5: The Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	**NI**	No mitigation required
SECTION 4.11 LAND USE AND PLANNING		
Impact LU-1: The Proposed Project would physically divide an established community	**LTS**	No mitigation required
Impact LU-2: The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	**SU**	No mitigation available
SECTION 4.12 NOISE AND VIBRATION		
Impact NOI-1 (Solar Generation Plant): Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**MM NOI-1a:** Construction Restrictions **MM NOI-1b:** Public Notification Process **MM NOI-1c:** Noise Complaint Process **MM NOI-1d:** Operational Noise Performance Standard
Impact NOI-1 (Gen-tie Line): Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**MM NOI-1a:** Construction Restrictions **MM NOI-1b:** Public Notification Process **MM NOI-1c:** Noise Complaint Process
Impact NOI-2: Construction noise impacts in excess of ambient noise levels	**LTSM**	**MM NOI-1a:** Construction Restrictions **MM NOI-1b:** Public Notification Process **MM NOI-1c:** Noise Complaint Process

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact NOI-3 (Solar Generation Plant): Operational noise impacts in excess of ambient noise levels	**LTSM**	**MM NOI-1d:** Operational Noise Performance Standard
Impact NOI-3 (Gen-tie Line): Operational noise impacts in excess of ambient noise levels	**LTS**	No mitigation required
Impact NOI-4: Vibration impacts to sensitive receptors	**LTS**	No mitigation required
SECTION 4.13 PALEONTOLOGICAL RESOURCES		
Impact PAL-1: The Proposed Project could destroy a unique paleontological resource or site	**LTSM**	**MM PAL-1a:** Paleontological Worker Environmental Awareness Program **MM PAL-1b:** Unanticipated Fossil Discovery
SECTION 4.14 POPULATION AND HOUSING		
Impact POP-1: Project construction and operation would induce substantial population growth in an area, either directly or indirectly	**LTS**	No mitigation required
Impact POP-2: Project construction and operation would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere	**LTS**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.15 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS		
Impact PSU-1: Project construction and operation would result in adverse physical impacts associated with the provision of or need for new or altered governmental facilities or would inhibit maintenance of acceptable service ratios and response times for public services.	**SU**	**MM TRA-1:** Construction Traffic Control Plan
Impact PSU-2: Project construction and operation would require new or relocated utilities and service systems and/or place demands on local water, wastewater, and solid waste facilities in excess of their capacities	**LTS**	No mitigation required
SECTION 4.16 RECREATION		
Impact REC-1 (Solar Generation Plant): Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTSM**	**MM TRA-1:** Construction Traffic Control Plan **MM TRA-3a:** Repair Roadways Damaged by Construction Activities
Impact REC-1 (Gen-tie Line): Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTS**	No mitigation required
Impact REC-2 (Solar Generation Plant): Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTSM**	**MM TRA-1:** Construction Traffic Control Plan **MM TRA-3a:** Repair Roadways Damaged by Construction Activities
Impact REC-2 (Gen-tie Line): Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTS**	No mitigation required

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Table ES-2a. Summary of Impacts and Mitigation: Proposed Stagecoach Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.17 TRAFFIC AND TRANSPORTATION		
Impact TRA-1: Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system	**SU**	**MM TRA-1:** Construction Traffic Control Plan
Impact TRA-2: Project activities would substantially increase vehicle miles travelled	**LTS**	No mitigation required
Impact TRA-3 (Solar Generation Plant): Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**MM TRA-1:** Construction Traffic Control Plan **MM TRA-3a:** Repair Roadways Damaged by Construction Activities
Impact TRA-3 (Gen-tie Line): Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**MM TRA-1:** Construction Traffic Control Plan **MM TRA-3b:** Gen-tie Access Road Design Approval
Impact TRA-4: Project activities requiring temporary road or travel lane closures would affect emergency vehicle response.	**SU**	**MM TRA-1:** Construction Traffic Control Plan
SECTION 4.18 WILDFIRE		
Impact WIL-1: Require the installation or maintenance of 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 increased wildfire risk	**LTSM**	**MM WIL-1:** Expand Fire Management and Prevention Plan
Impact WIL-2: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	**LTSM**	**MM WIL-1:** Expand Fire Management and Prevention Plan **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.1 AESTHETICS		
Impact ALG-1: Introduction of visually discordant construction equipment, vehicles, materials, and workforce	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM TRA-1:** Construction Traffic Control Plan
Impact ALG-2: Creation of visual contrast due to vegetation removal	**NI**	No mitigation required
Impact ALG-3: Creation of visual contrast associated with the marking of natural features	**LTSM**	**MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat
Impact ALG-4: Creation of visual contrast associated with fugitive dust, waste, and trash	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM BIO-3a:** Protect Wildlife Resources
Impact ALG-5: Creation of new sources of substantial light or glare such as nighttime illumination	**LTSM**	**MM ALG-5:** Minimize Night Lighting at Project Facilities
Impact ALG-6: Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality	**SU**	**MM ALG-6:** Surface Treatment and Design of Project Structures and Buildings
SECTION 4.2 AIR QUALITY		
Impact AQ-1: Air pollutant emissions from construction and O&M	**SU**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-2: Consistency with regional air quality plans	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact AQ-3: Exposure of sensitive receptors to substantial pollutant concentrations	**LTSM**	**MM AQ-1a:** Fugitive Dust Control **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions
Impact AQ-4: Creation of objectionable odors affecting a substantial number of people	**LTS**	No mitigation required
SECTION 4.3 BIOLOGICAL RESOURCES		
Impact BIO-1: Substantially reduce habitat for a fish or wildlife species	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM HAZ-1**: Hazardous Materials Training and Management

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-2: Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-3: Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3d:** Protect Desert Kit Fox and American Badger **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines **MM NOI-1a:** Construction Restrictions **MM ALG-5:** Minimize Night Lighting at Project Facilities **MM TRA-1:** Construction Traffic Control Plan

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-4: Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO 1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3b:** Relocate Special-status Wildlife Species **MM BIO-3e:** Avoid Effects on Burrowing Owl **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines
Impact BIO-5: Create a substantial collision and electrocution risk for birds or bats	**LTSM**	**MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines
Impact BIO-6: Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**NI**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-7: Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO7-a:** Protect Streambeds and Watersheds **MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact BIO-8: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTS**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact BIO-9: Conflict with local policies or ordinances protecting biological resources	**LTSM**	**MM BIO-1a:** Implement Biological Monitoring **MM BIO-1b:** Implement Worker Environmental Awareness Training **MM BIO-1c:** Minimize Impact and Protect Identified Vegetation and Habitat **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation **MM BIO-1f:** Protect Important Plants **MM BIO-1g:** Compensate for Loss of Natural Habitat **MM BIO-3a:** Protect Wildlife Resources **MM BIO-3c:** Protect Desert Tortoise **MM BIO-3f:** Bird and Bat Protection **MM BIO-3g:** Implement Protective Designs for Collector Line and Gen-tie Lines **MM BIO-7a:** Protect Streambeds and Watersheds
Impact BIO-10: Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	**NI**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.4 CULTURAL RESOURCES		
Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, section 15064.5	**LTSM**	**MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM CUL-1g:** Avoidance of Environmentally Sensitive Area **MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Tribal Cultural Resources

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact CUL-2: The Project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines, section 15064.5	**LTSM**	**MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Tribal Cultural Resources
Impact CUL-3: The Project could disturb human remains, including those interred outside of formal cemeteries	**LTSM**	**MM CUL-3:** Treatment of Human Remains

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.5 CULTURAL RESOURCES – TRIBAL		
Impact TCR-1: Change the Significance of a Tribal Cultural Resource, as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historic Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**MM TCR-1a:** Tribal Monitoring **MM TCR-1b:** Treatment of Tribal Cultural Resources **MM CUL-1a:** Retain a Cultural Resources Specialist **MM CUL-1b:** Prepare and Implement a Cultural Resources Monitoring Plan **MM CUL-1c:** Develop and Implement Cultural Resources Environmental Awareness Training **MM CUL-1d:** Archaeological Monitoring **MM CUL-1e:** Unanticipated Discovery **MM CUL-1f:** Monitoring Report **MM CUL-1g:** Avoidance of Environmentally Sensitive Area **MM CUL-3:** Treatment of Human Remains
SECTION 4.6 ENERGY		
Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and maintenance	**LTS**	Mitigation is not required but the following measures would be beneficial in improving efficiency of energy use: **MM AQ-1b:** Control On-Site Off-Road Equipment Emissions **MM TRA-1:** Construction Traffic Control Plan
Impact EN-2: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency	**SU**	No mitigation available

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.7 GEOLOGY AND SOILS		
Impact GEO-1: Damage or injury from fault rupture	**NI**	No mitigation required
Impact GEO-2: Strong earthquake-induced ground shaking could result in damage to project structures and/or injury to people	**LTS**	No mitigation required
Impact GEO-3: Project structures could be damaged by seismically induced liquefaction phenomena	**LTS**	No mitigation required
Impact GEO-4: Seismically induced landslides or slope failures could damage project structures or expose workers to injury	**NI**	No mitigation required
Impact GEO-5: Construction and operation of the Project could trigger or accelerate soil erosion	**LTSM**	**MM AQ-1a:** Fugitive Dust Control Plan
Impact GEO-6: Slope failures, such as landslides, could be triggered by project construction	**NI**	No mitigation required
Impact GEO-7: Unsuitable soils result in damage to project structures	**LTSM**	**MM GEO-7:** Assess Unsuitable Soils
SECTION 4.8 GREENHOUSE GAS EMISSIONS		
Impact GHG-1: GHG emissions from project activities	**LTS**	No mitigation required
Impact GHG-2: Consistency with applicable GHG plan, policy, or regulation	**LTS**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.9 HAZARDS AND HAZARDOUS MATERIALS		
Impact HAZ-1: Spill or release of hazardous materials occurs during construction, operation, or maintenance of the project	**LTSM**	**MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HAZ-3: Unknown environmental contamination could be encountered during construction	**LTSM**	**MM HAZ-3a:** Aerially Deposited Lead Testing Program **MM HAZ-3b:** Soil and Groundwater Management Plan
Impact HAZ-4: Valley fever spores could be mobilized	**LTSM**	**MM AQ-1a:** Fugitive Dust Control
SECTION 4.10 HYDROLOGY AND WATER QUALITY		
Impact HWQ-1: The Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality	**LTSM**	**MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HWQ-2: The Proposed Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level	**LTS**	No mitigation required
Impact HWQ-3: The Proposed Project would substantially alter existing drainage patterns by altering the course of a waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows.	**LTSM**	**MM HWQ-3:** Drainage Plan Development

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact HWQ-4: The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**MM HWQ-3:** Drainage Plan Development **MM HAZ-1:** Hazardous Materials Training and Management Plan
Impact HWQ-5: The Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	**NI**	No mitigation required
SECTION 4.11 LAND USE AND PLANNING		
Impact LU-1: The Proposed Project would physically divide an established community	**LTS**	No mitigation required
Impact LU-2: The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	**SU**	No mitigation available
SECTION 4.12 NOISE AND VIBRATION		
Impact NOI-1: Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**MM NOI-1a:** Construction Restrictions **MM NOI-1b:** Public Notification Process **MM NOI-1c:** Noise Complaint Process **MM NOI-1d:** Operational Noise Performance Standard
Impact NOI-2: Construction noise impacts in excess of ambient noise levels	**LTSM**	**MM NOI-1a:** Construction Restrictions **MM NOI-1b:** Public Notification Process **MM NOI-1c:** Noise Complaint Process
Impact NOI-3: Operational noise impacts in excess of ambient noise levels	**LTSM**	**MM NOI-1d:** Operational Noise Performance Standard
Impact NOI-4: Vibration impacts to sensitive receptors	**LTS**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.13 PALEONTOLOGICAL RESOURCES		
Impact PAL-1: The Proposed Project could destroy a unique paleontological resource or site	**LTSM**	**MM PAL-1a:** Paleontological Worker Environmental Awareness Program **MM PAL-1b:** Unanticipated Fossil Discovery
SECTION 4.14 POPULATION AND HOUSING		
Impact POP-1: Project construction and operation would induce substantial population growth in an area, either directly or indirectly	**NI**	No mitigation required
Impact POP-2: Project construction and operation would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere	**NI**	No mitigation required
SECTION 4.15 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS		
Impact PSU-1: Project construction and operation would result in adverse physical impacts associated with the provision of or need for new or altered governmental facilities or would inhibit maintenance of acceptable service ratios and response times for public services	**SU**	**MM TRA-1:** Construction Traffic Control Plan
Impact PSU-2: Project construction and operation would require new or relocated utilities and service systems and/or place demands on local water, wastewater, and solid waste facilities in excess of their capacities	**LTS**	No mitigation required

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
SECTION 4.16 RECREATION		
Impact REC-1: Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTS**	No mitigation required
Impact REC-2: Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTS**	No mitigation required
SECTION 4.17 TRAFFIC AND TRANSPORTATION		
Impact TRA-1: Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system	**SU**	**MM TRA-1:** Construction Traffic Control Plan
Impact TRA-2: Project activities would substantially increase vehicle miles travelled	**LTS**	No mitigation required
Impact TRA-3: Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**MM TRA-1:** Construction Traffic Control Plan
Impact TRA-4: Project activities requiring temporary road or travel lane closures would affect emergency vehicle response.	**SU**	**MM TRA-1:** Construction Traffic Control Plan
SECTION 4.18 WILDFIRE		
Impact WIL-1: 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 increased wildfire risk.	**LTSM**	**MM WIL-1:** Expand Fire Management and Prevention Plan

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Table ES-2b. Summary of Impacts and Mitigation: Proposed SCE Calcite Facilities		
Impact	**Impact Class[1]**	**Recommended MMs**
Impact WIL-2: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	**LTSM**	**MM WIL-1:** Expand Fire Management and Prevention Plan **MM BIO-1d:** Weed Management **MM BIO-1e:** Revegetation

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	Proposed Project	No Project Alternative	Joshua Tree Avoidance Alternative
SECTION 4.1 AESTHETICS			
Impact ALG-1: Introduction of visually discordant construction equipment, vehicles, materials, and workforce	**LTSM**	**NI**	**LTSM**
Impact ALG-2: Creation of visual contrast due to vegetation removal	**SU**	**NI**	**SU**
Impact ALG-3: Creation of visual contrast associated with the marking of natural features	**LTSM**	**NI**	**LTSM**
Impact ALG-4: Creation of visual contrast associated with fugitive dust, waste, and trash	**LTSM**	**NI**	**LTSM**
Impact ALG-5: Creation of new sources of substantial light or glare such as nighttime illumination	**LTSM**	**NI**	**LTSM**
Impact ALG-6: Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality	**SU**	**NI**	**SU**
SECTION 4.2 AIR QUALITY			
Impact AQ-1: Air pollutant emissions from construction and O&M	**SU**	**NI**	**SU**
Impact AQ-2: Consistency with regional air quality plans	**LTSM**	**NI**	**LTSM**
Impact AQ-3: Exposure of sensitive receptors to substantial pollutant concentrations	**SU**	**NI**	**SU**
Impact AQ-4: Creation of objectionable odors affecting a substantial number of people	**LTS**	**NI**	**LTS**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	**Proposed Project**	**No Project Alternative**	**Joshua Tree Avoidance Alternative**
SECTION 4.3 BIOLOGICAL RESOURCES			
Impact BIO-1: Substantially reduce habitat for a fish or wildlife species	**LTSM**	**NI**	**LTSM**
Impact BIO-2: Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**NI**	**LTSM (Less than Proposed)**
Impact BIO-3: Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**NI**	**LTSM**
Impact BIO-4: Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**NI**	**LTSM**
Impact BIO-5: Create a substantial collision and electrocution risk for birds or bats	**LTSM**	**NI**	**LTSM**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	**Proposed Project**	**No Project Alternative**	**Joshua Tree Avoidance Alternative**
Impact BIO-6: Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**LTSM**	**NI**	**LTSM**
Impact BIO-7: Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**NI**	**LTSM**
Impact BIO-8: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTSM**	**NI**	**LTSM**
Impact BIO-9: Conflict with local policies or ordinances protecting biological resources	**LTSM**	**NI**	**LTSM**
Impact BIO-10: Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	**NI**	**NI**	**NI**
SECTION 4.4 CULTURAL RESOURCES			
Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, § 15064.5	**LTSM**	**NI**	**LTSM**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	Proposed Project	No Project Alternative	Joshua Tree Avoidance Alternative
Impact CUL-2: The Project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines, § 15064.5	**LTSM**	**NI**	**LTSM**
Impact CUL-3: The Project could disturb human remains, including those interred outside of formal cemeteries	**LTSM**	**NI**	**LTSM**
SECTION 4.5 CULTURAL RESOURCES – TRIBAL			
Impact TCR-1: Change the Significance of a Tribal Cultural Resource as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historical Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**NI**	**LTSM**
SECTION 4.6 ENERGY			
Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and maintenance	**LTS**	**NI**	**LTS**
Impact EN-2: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency	**SU**	**NI**	**SU**
SECTION 4.7 GEOLOGY AND SOILS			
Impact GEO-1: Damage or injury from fault rupture	**NI**	**NI**	**NI**
Impact GEO-2: Strong earthquake-induced ground shaking could result in damage to project structures and/or injury to people	**LTS**	**NI**	**LTS**
Impact GEO-3: Project structures could be damaged by seismically induced liquefaction phenomena	**LTS**	**NI**	**LTS**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	**Proposed Project**	**No Project Alternative**	**Joshua Tree Avoidance Alternative**
Impact GEO-4: Seismically induced landslides or slope failures could damage project structures or expose workers to injury	**LTS**	**NI**	**LTS**
Impact GEO-5: Construction and operation of the Project could trigger or accelerate soil erosion	**LTSM**	**NI**	**LTSM**
Impact GEO-6: Slope failures, such as landslides, could be triggered by project construction	**LTS**	**NI**	**LTS**
Impact GEO-7: Unsuitable soils result in damage to project structures	**LTSM**	**NI**	**LTSM**
Impact GEO-8: Soils could be incapable of supporting a Septic System	**LTS**	**NI**	**LTS**
SECTION 4.8 GREENHOUSE GAS EMISSIONS			
Impact GHG-1: GHG emissions from project activities	**LTS**	**NI**	**LTS**
Impact GHG-2: Consistency with applicable GHG plan, policy, or regulation	**NI**	**NI**	**NI**
SECTION 4.9 HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Spill or release of hazardous materials occurs during construction, operation, or maintenance of the project	**LTSM**	**NI**	**LTSM**
Impact HAZ-2: Encountering unexploded ordnance or military munitions and explosives of concern (UXO or MEC)	**LTSM**	**NI**	**LTSM**
Impact HAZ-3: Unknown environmental contamination could be encountered during construction	**LTSM**	**NI**	**LTSM**
Impact HAZ-4: Valley fever spores could be mobilized	**LTSM**	**NI**	**LTSM**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	**Proposed Project**	**No Project Alternative**	**Joshua Tree Avoidance Alternative**
SECTION 4.10 HYDROLOGY AND WATER QUALITY			
Impact HWQ-1: The Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	**LTSM**	**NI**	**LTSM**
Impact HWQ-2: The Proposed Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level	**LTS**	**NI**	**LTS**
Impact HWQ-3: The Proposed Project would substantially alter the existing drainage patterns by altering the course of a stream or waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows	**LTSM**	**NI**	**LTSM**
Impact HWQ-4: The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**NI**	**LTSM**
Impact HWQ-5: The Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	**NI**	**NI**	**NI**
SECTION 4.11 LAND USE AND PLANNING			
Impact LU-1: The Proposed Project would physically divide an established community	**LTS**	**NI**	**LTS**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	Proposed Project	No Project Alternative	Joshua Tree Avoidance Alternative
Impact LU-2: The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	**SU**	**NI**	**SU**
SECTION 4.12 NOISE AND VIBRATION			
Impact NOI-1: Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**NI**	**LTSM**
Impact NOI-2: Construction noise impacts in excess of ambient noise levels	**LTSM**	**NI**	**LTSM**
Impact NOI-3: Operational noise impacts in excess of ambient noise levels	**LTSM**	**NI**	**LTSM**
Impact NOI-4: Vibration impacts to sensitive receptors	**LTS**	**NI**	**LTS**
SECTION 4.13 PALEONTOLOGICAL RESOURCES			
Impact PAL-1: The Proposed Project could destroy a unique paleontological resource or sit	**LTSM**	**NI**	**LTSM**
SECTION 4.14 POPULATION AND HOUSING			
Impact POP-1: Project construction and operation would induce substantial population growth in an area, either directly or indirectly	**LTS**	**NI**	**LTS**
Impact POP-2: Project construction and operation would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere	**LTS**	**NI**	**LTS**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	Proposed Project	No Project Alternative	Joshua Tree Avoidance Alternative
SECTION 4.15 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS			
Impact PSU-1: Project construction and operation would result in adverse physical impacts associated with the provision of or need for new or altered governmental facilities or would inhibit maintenance of acceptable service ratios and response times for public services	**SU**	**NI**	**SU**
Impact PSU-2: Project construction and operation would require new or relocated utilities and service systems and/or place demands on local water, wastewater, and solid waste facilities in excess of their capacities	**LTS**	**NI**	**LTS**
SECTION 4.16 RECREATION			
Impact REC-1: Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTSM**	**NI**	**LTSM**
Impact REC-2: Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTSM**	**NI**	**LTSM**
SECTION 4.17 TRAFFIC AND TRANSPORTATION			
Impact TRA-1: Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system	**SU**	**NI**	**SU**
Impact TRA-2: Project activities would substantially increase vehicle miles travelled	**LTS**	**NI**	**LTS**

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Table ES-3a. Comparison of Alternatives: Solar Generation Plant			
	Impact Class[1]		
Impact	**Proposed Project**	**No Project Alternative**	**Joshua Tree Avoidance Alternative**
Impact TRA-3: Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**NI**	**LTSM**
Impact TRA-4: Project activities would affect emergency vehicle response	**SU**	**NI**	**SU**
SECTION 4.18 WILDFIRE			
Impact WIL-1: Require the installation or maintenance of 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 increased wildfire risk	**LTSM**	**NI**	**LTSM**
Impact WIL-2: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	**LTSM**	**NI**	**LTSM**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	Proposed Gen-tie Line	No Project Alternative	Under-ground Alternative in County Roads	Under-ground Alternative Along Proposed ROW
SECTION 4.1 AESTHETICS				
Impact ALG-1: Introduction of visually discordant construction equipment, vehicles, materials, and workforce	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact ALG-2: Creation of visual contrast due to vegetation removal	**SU**	**NI**	**SU**	**SU**
Impact ALG-3: Creation of visual contrast associated with the marking of natural features	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact ALG-4: Creation of visual contrast associated with fugitive dust, waste, and trash	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact ALG-5: Creation of new sources of substantial light or glare such as nighttime illumination	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact ALG-6: Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality	**SU**	**NI**	**SU (Less than Proposed)**	**SU (Less than Proposed)**
SECTION 4.2 AIR QUALITY				
Impact AQ-1: Air pollutant emissions from construction and O&M	**SU**	**NI**	**SU (More than Proposed)**	**SU (More than Proposed)**
Impact AQ-2: Consistency with regional air quality plans	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact AQ-3: Exposure of sensitive receptors to substantial pollutant concentrations	**LTSM**	**NI**	**LTSM**	**LTSM**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
Impact AQ-4: Creation of objectionable odors affecting a substantial number of people	**LTS**	**NI**	**LTS**	**LTS**
SECTION 4.3 BIOLOGICAL RESOURCES				
Impact BIO-1: Substantially reduce habitat for a fish or wildlife species	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact BIO-2: Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact BIO-3: Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact BIO-4: Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**NI**	**LTSM**	**LTSM**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
Impact BIO-5: Create a substantial collision and electrocution risk for birds or bats	**LTSM**	**NI**	**LTSM (Less than Proposed)**	**LTSM (Less then Proposed)**
Impact BIO-6: Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**NI**	**NI**	**NI**	**NI**
Impact BIO-7: Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact BIO-8: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTSM**	**NI**	**LTSM (Less than Proposed)**	**LTSM (Less than Proposed)**
Impact BIO-9: Conflict with local policies or ordinances protecting biological resources	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact BIO-10: Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	**NI**	**NI**	**NI**	**NI**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	Proposed Gen-tie Line	No Project Alternative	Under-ground Alternative in County Roads	Under-ground Alternative Along Proposed ROW
SECTION 4.4 CULTURAL RESOURCES				
Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, § 15064.5	**SU**	**NI**	**SU**	**SU**
Impact CUL-2: The Project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines, § 15064.5	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact CUL-3: The Project could disturb human remains, including those interred outside of formal cemeteries	**LTSM**	**NI**	**LTSM**	**LTSM**
SECTION 4.5 CULTURAL RESOURCES – TRIBAL				
Impact TCR-1: Change the Significance of a Tribal Cultural Resource, as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historic Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**NI**	**LTSM**	**LTSM**
SECTION 4.6 ENERGY				
Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and maintenance	**LTS**	**NI**	**LTS**	**LTS**
Impact EN-2: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency	**SU**	**NI**	**SU**	**SU**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
SECTION 4.7 GEOLOGY AND SOILS				
Impact GEO-1: Damage or injury from fault rupture	**NI**	**NI**	**NI**	**NI**
Impact GEO-2: Strong earthquake-induced ground shaking could result in damage to project structures and/or injury to people	**LTS**	**NI**	**LTS**	**LTS**
Impact GEO-3: Project structures could be damaged by seismically induced liquefaction phenomena	**LTS**	**NI**	**LTS**	**LTS**
Impact GEO-4: Seismically induced landslides or slope failures could damage project structures or expose workers to injury	**LTS**	**NI**	**LTS**	**LTS**
Impact GEO-5: Construction and operation of the Project could trigger or accelerate soil erosion	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact GEO-6: Slope failures, such as landslides, could be triggered by project construction	**LTS**	**NI**	**LTS**	**LTS**
Impact GEO-7: Unsuitable soils result in damage to project structures	**LTSM**	**NI**	**LTSM**	**LTSM**
SECTION 4.8 GREENHOUSE GAS EMISSIONS				
Impact GHG-1: GHG emissions from project activities	**LTS**	**NI**	**LTS**	**LTS**
Impact GHG-2: Consistency with applicable GHG plan, policy, or regulation	**NI**	**NI**	**NI**	**NI**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
SECTION 4.9 HAZARDS AND HAZARDOUS MATERIALS				
Impact HAZ-1: Spill or release of hazardous materials occurs during construction, operation, or maintenance of the project	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HAZ-2: Encountering unexploded ordnance or military munitions and explosives of concern (UXO or MEC)	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HAZ-3: Unknown environmental contamination could be encountered during construction	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HAZ-4: Valley fever spores could be mobilized	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HAZ-5: Gen-tie Line could cause interference with radio, television, communications, or electronic equipment	**LTSM**	**NI**	**LTSM**	**LTSM**
Issue HAZ-6: Electric and magnetic fields would be increased with presence of the Stagecoach Gen-tie Line	**NI**	**NI**	**NI (Greater)**	**NI (Greater)**
SECTION 4.10 HYDROLOGY AND WATER QUALITY				
Impact HWQ-1: The Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HWQ-2: The Proposed Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level	**LTS**	**NI**	**LTS**	**LTS**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	Proposed Gen-tie Line	No Project Alternative	Under-ground Alternative in County Roads	Under-ground Alternative Along Proposed ROW
Impact HWQ-3: The Proposed Project would substantially alter the existing drainage patterns by altering the course of a stream or waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows	**LTS**	**NI**	**LTS**	**LTS**
Impact HWQ-4: The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact HWQ-5: The Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	**NI**	**NI**	**NI**	**NI**
SECTION 4.11 LAND USE AND PLANNING				
Impact LU-1: The Proposed Project would physically divide an established community	**LTS**	**NI**	**LTS**	**LTS**
Impact LU-2: The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	**SU**	**NI**	**SU**	**SU**
SECTION 4.12 NOISE AND VIBRATION				
Impact NOI-1: Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**NI**	**LTSM**	**LTSM**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
Impact NOI-2: Construction noise impacts in excess of ambient noise levels	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact NOI-3: Operational noise impacts in excess of ambient noise levels	**LTS**	**NI**	**LTS**	**LTS**
Impact NOI-4: Vibration impacts to sensitive receptors	**LTS**	**NI**	**LTS**	**LTS**
SECTION 4.13 PALEONTOLOGICAL RESOURCES				
Impact PAL-1: The Proposed Project could destroy a unique paleontological resource or site	**LTSM**	**NI**	**LTSM**	**LTSM**
SECTION 4.14 POPULATION AND HOUSING				
Impact POP-1: Project construction and operation would induce substantial population growth in an area, either directly or indirectly	**LTS**	**NI**	**LTS**	**LTS**
Impact POP-2: Project construction and operation would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere	**LTS**	**NI**	**LTS**	**LTS**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
SECTION 4.15 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS				
Impact PSU-1: Project construction and operation would result in adverse physical impacts associated with the provision of or need for new or altered governmental facilities or would inhibit maintenance of acceptable service ratios and response times for public services	**SU**	**NI**	**SU**	**SU**
Impact PSU-2: Project construction and operation would require new or relocated utilities and service systems and/or place demands on local water, wastewater, and solid waste facilities in excess of their capacities	**LTS**	**NI**	**LTS**	**LTS**
SECTION 4.16 RECREATION				
Impact REC-1: Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTS**	**NI**	**LTS**	**LTS**
Impact REC-2: Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTS**	**NI**	**LTS**	**LTS**
SECTION 4.17 TRAFFIC AND TRANSPORTATION				
Impact TRA-1: Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system	**SU**	**NI**	**SU**	**SU**

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Table ES-3b. Comparison of Alternatives: Gen-tie Line				
	Impact Class[1]			
Impact	**Proposed Gen-tie Line**	**No Project Alternative**	**Under-ground Alternative in County Roads**	**Under-ground Alternative Along Proposed ROW**
Impact TRA-2: Project activities would substantially increase vehicle miles travelled	**LTS**	**NI**	**LTS**	**LTS**
Impact TRA-3: Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact TRA-4: Project activities would affect emergency vehicle response	**LTSM**	**NI**	**LTSM**	**LTSM**
SECTION 4.18 WILDFIRE				
Impact WIL-1: Require the installation or maintenance of 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 increased wildfire risk	**LTSM**	**NI**	**LTSM**	**LTSM**
Impact WIL-2: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	**LTSM**	**NI**	**LTSM**	**LTSM**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	**Proposed SCE Calcite Facilities**	**No Project Alternative**	**SCE Calcite Facilities Alternative**
SECTION 4.1 AESTHETICS			
Impact ALG-1: Introduction of visually discordant construction equipment, vehicles, materials, and workforce	**LTSM**	**NI**	**LTSM**
Impact ALG-2: Creation of visual contrast due to vegetation removal	**NI**	**NI**	**NI**
Impact ALG-3: Creation of visual contrast associated with the marking of natural features	**LTSM**	**NI**	**LTSM**
Impact ALG-4: Creation of visual contrast associated with fugitive dust, waste, and trash	**LTSM**	**NI**	**LTSM**
Impact ALG-5: Creation of new sources of substantial light or glare such as nighttime illumination	**LTSM**	**NI**	**LTSM**
Impact ALG-6: Long-term presence of the Project would result in landscape changes that degrade existing visual character or quality	**SU**	**NI**	**SU (Less than Proposed)**
SECTION 4.2 AIR QUALITY			
Impact AQ-1: Air pollutant emissions from construction and O&M	**SU**	**NI**	**SU**
Impact AQ-2: Consistency with regional air quality plans	**LTSM**	**NI**	**LTSM**
Impact AQ-3: Exposure of sensitive receptors to substantial pollutant concentrations	**LTSM**	**NI**	**LTSM**
Impact AQ-4: Creation of objectionable odors affecting a substantial number of people	**LTS**	**NI**	**LTS**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	**Proposed SCE Calcite Facilities**	**No Project Alternative**	**SCE Calcite Facilities Alternative**
SECTION 4.3 BIOLOGICAL RESOURCES			
Impact BIO-1: Substantially reduce habitat for a fish or wildlife species	**LTSM**	**NI**	**LTSM**
Impact BIO-2: Substantially affect state or federally listed threatened or endangered plants, California Rare Plant Rank 1 or 2 plants, or locally significant populations of other non-listed special-status plants by causing take of a listed species or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species	**LTSM**	**NI**	**LTSM**
Impact BIO-3: Substantially affect state fully protected wildlife species, state or federally listed threatened or endangered wildlife, California Species of Special Concern, or state ranked S1, S2, or S3 special-status wildlife by causing take or degrading occupied habitat or designated critical habitat, or substantially reduce the number or restrict the range of a listed species or cause the local population to drop below self-sustaining levels	**LTSM**	**NI**	**LTSM**
Impact BIO-4: Cause take of protected nesting birds, including nestlings or eggs, through direct impacts to the nest or substantial nearby disturbance which could cause nest abandonment	**LTSM**	**NI**	**LTSM**
Impact BIO-5: Create a substantial collision and electrocution risk for birds or bats	**LTSM**	**NI**	**LTSM**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	**Proposed SCE Calcite Facilities**	**No Project Alternative**	**SCE Calcite Facilities Alternative**
Impact BIO-6: Remove or degrade substantial acreage of riparian vegetation or sensitive vegetation communities identified as S1, S2, or S3, such that the community could be eliminated or its structure or function in the vicinity of the project would be substantially affected	**NI**	**NI**	**NI**
Impact BIO-7: Substantially impact jurisdictional wetlands or waters of the U.S. or waters of the state such that ecological structure or function of jurisdictional features in the vicinity of the project would be substantially affected	**LTSM**	**NI**	**LTSM**
Impact BIO-8: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites	**LTS**	**NI**	**LTS**
Impact BIO-9: Conflict with local policies or ordinances protecting biological resources	**LTSM**	**NI**	**LTSM**
Impact BIO-10: Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan	**NI**	**NI**	**NI**
SECTION 4.4 CULTURAL RESOURCES			
Impact CUL-1: The Project could cause a substantial adverse change in the significance of a historical resource pursuant to State CEQA Guidelines, § 15064.5	**LTSM**	**NI**	**LTSM**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	Proposed SCE Calcite Facilities	No Project Alternative	SCE Calcite Facilities Alternative
Impact CUL-2: The Project could cause a substantial adverse change in the significance of a unique archaeological resource pursuant to State CEQA Guidelines, § 15064.5	**LTSM**	**NI**	**LTSM**
Impact CUL-3: The Project could disturb human remains, including those interred outside of formal cemeteries	**LTSM**	**NI**	**LTSM**
SECTION 4.5 CULTURAL RESOURCES – TRIBAL			
Impact TCR-1: Change the Significance of a Tribal Cultural Resource, as defined in Public Resources Code section 21074, that is either eligible for or listed in the California Register of Historic Resources or in a local register or is determined by the lead agency to be significant	**LTSM**	**NI**	**LTSM**
SECTION 4.6 ENERGY			
Impact EN-1: Wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation and maintenance	**LTS**	**NI**	**LTS**
Impact EN-2: Conflict with or obstruct a State or local plan for renewable energy or energy efficiency	**SU**	**NI**	**SU**
SECTION 4.7 GEOLOGY AND SOILS			
Impact GEO-1: Damage or injury from fault rupture	**NI**	**NI**	**NI**
Impact GEO-2: Strong earthquake-induced ground shaking could result in damage to project structures and/or injury to people	**LTS**	**NI**	**LTS**
Impact GEO-3: Project structures could be damaged by seismically induced liquefaction phenomena	**LTS**	**NI**	**LTS**

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	Impact Class[1]		
Impact	**Proposed SCE Calcite Facilities**	**No Project Alternative**	**SCE Calcite Facilities Alternative**
Impact GEO-4: Seismically induced landslides or slope failures could damage project structures or expose workers to injury	**NI**	**NI**	**NI**
Impact GEO-5: Construction and operation of the Project could trigger or accelerate soil erosion	**LTSM**	**NI**	**LTSM**
Impact GEO-6: Slope failures, such as landslides, could be triggered by project construction	**NI**	**NI**	**NI**
Impact GEO-7: Unsuitable soils result in damage to project structures	**LTSM**	**NI**	**LTSM**
SECTION 4.8 GREENHOUSE GAS EMISSIONS			
Impact GHG-1: GHG emissions from project activities	**LTS**	**NI**	**LTS**
Impact GHG-2: Consistency with applicable GHG plan, policy, or regulation	**LTS**	**NI**	**LTS**
SECTION 4.9 HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-1: Spill or release of hazardous materials occurs during construction, operation, or maintenance of the project	**LTSM**	**NI**	**LTSM**
Impact HAZ-3: Unknown environmental contamination could be encountered during construction	**LTSM**	**NI**	**LTSM**
Impact HAZ-4: Valley fever spores could be mobilized	**LTSM**	**NI**	**LTSM**
SECTION 4.10 HYDROLOGY AND WATER QUALITY			
Impact HWQ-1: The Proposed Project would violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	**LTSM**	**NI**	**LTSM**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	Proposed SCE Calcite Facilities	No Project Alternative	SCE Calcite Facilities Alternative
Impact HWQ-2: The Proposed Project would substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level	**LTS**	**NI**	**LTS**
Impact HWQ-3: The Proposed Project would substantially alter the existing drainage patterns by altering the course of a stream or waterway or through the addition of impervious surfaces, allowing substantial erosion, siltation, increased surface runoff on- or off-site, or affecting flood flows	**LTSM**	**NI**	**LTSM**
Impact HWQ-4: The Proposed Project would be located in flood hazard zones, resulting in risk of release of pollutants due to site inundation	**LTSM**	**NI**	**LTSM**
Impact HWQ-5: The Proposed Project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	**NI**	**NI**	**NI**
SECTION 4.11 LAND USE AND PLANNING			
Impact LU-1: The Proposed Project would physically divide an established community	**LTS**	**NI**	**LTS**
Impact LU-2: The Proposed Project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect	**SU**	**NI**	**SU**

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	Impact Class[1]		
Impact	**Proposed SCE Calcite Facilities**	**No Project Alternative**	**SCE Calcite Facilities Alternative**
SECTION 4.12 NOISE AND VIBRATION			
Impact NOI-1: Construction and operation noise levels in excess of applicable community noise standards	**LTSM**	**NI**	**LTSM**
Impact NOI-2: Construction noise impacts in excess of ambient noise levels	**LTSM**	**NI**	**LTSM**
Impact NOI-3: Operational noise impacts in excess of ambient noise levels	**LTSM**	**NI**	**LTSM**
Impact NOI-4: Vibration impacts to sensitive receptors	**LTS**	**NI**	**LTS**
SECTION 4.13 PALEONTOLOGICAL RESOURCES			
Impact PAL-1: The Proposed Project could destroy a unique paleontological resource or site	**LTSM**	**NI**	**LTSM**
SECTION 4.14 POPULATION AND HOUSING			
Impact POP-1: Project construction and operation would induce substantial population growth in an area, either directly or indirectly	**NI**	**NI**	**NI**
Impact POP-2: Project construction and operation would displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere	**NI**	**NI**	**NI**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	Proposed SCE Calcite Facilities	No Project Alternative	SCE Calcite Facilities Alternative
SECTION 4.15 PUBLIC SERVICES, UTILITIES, AND SERVICE SYSTEMS			
Impact PSU-1: Project construction and operation would result in adverse physical impacts associated with the provision of or need for new or altered governmental facilities or would inhibit maintenance of acceptable service ratios and response times for public services	**SU**	**NI**	**SU**
Impact PSU-2: Project construction and operation would require new or relocated utilities and service systems and/or place demands on local water, wastewater, and solid waste facilities in excess of their capacities	**LTS**	**NI**	**LTS**
SECTION 4.16 RECREATION			
Impact REC-1: Increase the use of recreational areas such that substantial physical deterioration of the area would occur or be accelerated	**LTS**	**NI**	**LTS**
Impact REC-2: Disrupt or prevent access to designated recreational areas or disturb users of recreational resources	**LTS**	**NI**	**LTS**
SECTION 4.17 TRAFFIC AND TRANSPORTATION			
Impact TRA-1: Project traffic volumes, or temporary road or travel lane closures, would substantially affect the circulation system	**SU**	**NI**	**SU**
Impact TRA-2: Project activities would substantially increase vehicle miles travelled	**LTS**	**NI**	**LTS**

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Table ES-3c. Comparison of Alternatives: SCE Calcite Facilities			
	Impact Class[1]		
Impact	Proposed SCE Calcite Facilities	No Project Alternative	SCE Calcite Facilities Alternative
Impact TRA-3: Project activities or features would substantially increase roadway hazards from roadway damage or incompatible uses	**LTSM**	**NI**	**LTSM**
Impact TRA-4: Project activities would affect emergency vehicle response	**SU**	**NI**	**SU**
SECTION 4.18 WILDFIRE			
Impact WIL-1: Require the installation or maintenance of 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 increased wildfire risk	**LTSM**	**NI**	**LTSM**
Impact WIL-2: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	**LTSM**	**NI**	**LTSM**

[1] Impact Class Abbreviations: **SU**: Significant and Unavoidable. **LTSM**: Less than Significant with Mitigation. **LTS**: Less than Significant. **B:** Beneficial. **NI**: No Impact.

1.0 INTRODUCTION

1.1 PROJECT BACKGROUND AND LOCATION

The California State Lands Commission (CSLC), as lead agency under the California Environmental Quality Act (CEQA; Pub. Resources Code, § 21000 et seq.), has prepared this Environmental Impact Report (EIR) for the proposed Stagecoach Solar Project (Proposed Project). Aurora Solar, LLC (Aurora Solar or Applicant), a wholly owned subsidiary of Avangrid Renewables, has applied to the CSLC for a lease of State-owned school lands managed by the CSLC on which to construct and operate the Proposed Project, a solar generation project located in San Bernardino County, approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley.

The analysis of the Proposed Project is presented in three parts. The first two parts comprise the **Stagecoach Facilities,** proposed by Aurora Solar, LLC, and the third part includes the **SCE Calcite Facilities,** proposed by Southern California Edison (SCE). The analysis components are:

- The **Stagecoach Solar Generation Plant,** which would include 200 megawatts (MW) of solar arrays and collector lines, ancillary project facilities, and the battery energy storage system, all located within the 3,570 acres of State-owned school lands comprising six undeveloped parcels managed by the CSLC.[4] Within the area managed by the CSLC, approximately 1,975 acres would be occupied by project facilities.
- The **Stagecoach Gen-tie Line** (located on State-owned school lands, private leased land, and private purchased land), which would run approximately 9.1 miles, connecting the Stagecoach Solar Generation Plant to the proposed SCE Calcite Facilities and the SCE electrical transmission system
- The **SCE Calcite Facilities,** which would be constructed, owned, and operated by SCE and would include a substation (referred to as the **SCE Calcite Substation**), a connection to distribution-level electric power, access roads, telecommunications facilities, and new transmission structures to interconnect with the existing transmission system

The SCE Calcite Facilities are evaluated as part of the Proposed Project because electricity generated by the Stagecoach Facilities would be interconnected to the proposed SCE Calcite Substation. The electricity generated by the Stagecoach Facilities would be sold to a power purchaser through a power purchase agreement. The SCE Calcite Facilities would be permitted by the California Public Utilities Commission (CPUC), using this EIR to evaluate impacts of the SCE Calcite Facilities.

[4] APNs 046-430-101, 046-430-102, 046-430-104, 046-430-105, 041-716-254, 041-716-253.

The CSLC is the California Environmental Quality Act (CEQA) lead agency for the Proposed Project, and the CPUC is a Responsible Agency under CEQA with authority for permitting the SCE Calcite Facilities. This EIR provides agencies, Native American tribes consulting under Assembly Bill (AB) 52 (Gatto), Chapter 532, Statutes of 2014, and the public with detailed information about the effect which the Proposed Project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to analyze alternatives to the Proposed Project (see Section 1.5, *Purpose and Scope of EIR*).

1.2 PROJECT OBJECTIVES

1.2.1 Objectives of the Stagecoach Facilities

Aurora Solar defines the following objectives for the Proposed Project:

- Establish reliable solar photovoltaic (PV) power-generating facilities in an economically feasible and commercially financeable manner that can be marketed to potential power purchasers
- Assist California utilities in meeting their obligations under California's Renewables Portfolio Standard (RPS). In September 2018, Governor Brown signed Senate Bill (SB) 100 (De León), Chapter 532, Statutes of 2014, which requires California electric utilities to generate at least 60 percent of their power from renewable resources and to mandate that the state obtain all of its electricity from carbon-free sources by 2045.
- Assist California in meeting its greenhouse gas (GHG) emissions reduction goal as required by AB 32 (Nunez), the California Global Warming Solutions Act, Chapter 448, Statutes of 2006, as amended by SB 32 (Pavley), Chapter 249, Statutes of 2016, which establishes a target of GHG emissions reductions in the State to be 40 percent of 1990 levels by 2030[3]
- Assist California in transitioning the transportation sector to zero-emission vehicles by 2035 under Executive Order N-79-20, signed by Governor Newsom on September 23, 2020
- Co-locate energy storage facilities of sufficient size and configuration to reliably store electricity in an economically feasible and commercially financeable manner to facilitate the integration of solar energy into the California Independent System Operator's (CAISO) transmission grid
- Locate solar power plant and associated energy storage facilities as close as possible to electrical transmission facilities with anticipated capacity and available interconnection to the CAISO transmission grid

- Site the Proposed Project in an area with high solar insolation[5] in order to maximize productivity from the PV technology
- Use proven and available solar PV and energy storage technologies
- Create local short and long-term employment and business opportunities in the region

1.2.2 Objectives of the SCE Calcite Facilities

SCE has proposed to build the SCE Calcite Substation in response to an interconnection application from Aurora Solar, LLC.

1.3 CSLC MANAGEMENT OF SCHOOL LANDS

The CSLC is responsible for proactively managing and enhancing State properties in order to provide revenue for the State Teachers' Retirement Fund. The CSLC is also required to identify new, sustainable, equitable, and responsible revenue streams, including consideration of CSLC-driven project requests for proposals with desired revenue-generating activities like solar, geothermal, wind, and wave energy (CSLC 2021). To develop these revenues and support State renewable energy goals, the CSLC is committed to the following:

- Develop land managed by the CSLC with renewable energy facility leases to generate revenue applied to the State. This objective is consistent with CSLC's responsibility to proactively manage and enhance school lands in order to provide revenue for the State Teachers' Retirement Fund (Pub. Resources Code, § 6217.5).
- Assist California utilities in meeting their obligations under California's RPS. The CSLC supports the State's initiatives such as SB 100 and AB 32 to increase renewable energy and reduce GHG emissions, respectively. Supporting renewable energy on State lands is also consistent with its 2021-2025 Strategic Plan that directs the agency to "(p)roactively address climate change by leveraging the lands and resources under its jurisdiction to . . . Seek and facilitate carbon neutral, renewable energy revenue-generation activities."

1.4 OVERVIEW OF THE ENVIRONMENTAL REVIEW PROCESS

The actions proposed by the Applicant are subject to CEQA. Pursuant to State CEQA Guidelines[6] section 15378, the CSLC must review "the whole of [the] action that has a potential for resulting in either a direct physical change in the environment, or a reasonably

[5] Insolation is a measure of solar radiation energy received on a given surface in a given time. It is commonly expressed as an average irradiance in watts per square meter (W/m2) or kilowatt-hours per square meter per day (kWh/m2/day). The region in which the Project is located receives greater than 5.75 kWh/m2/day of solar radiation energy, giving it a higher degree of solar radiation than most areas within the United States (NREL 2021).

[6] The "State CEQA Guidelines" refers to California Code of Regulations, Title 14, Chapter 3.

foreseeable indirect physical change in the environment." For the Proposed Project, this includes the Stagecoach Solar Generation Plant, the Stagecoach Gen-tie Line (located on State-owned and private land), and the SCE Calcite Facilities. With limited exceptions, CEQA requires the CSLC, before approving a project over which it has discretionary authority, to consider the environmental consequences of the project. CEQA establishes procedural and substantive requirements that agencies must satisfy to meet CEQA's objectives, which are (State CEQA Guidelines, §§ 15002 and 15083):

- Ensure that the significant environmental effects of proposed activities are disclosed to decision makers and the public
- Identify ways to avoid or reduce environmental damage
- Prevent environmental damage by requiring implementation of feasible alternatives and/or mitigation measures
- Make public the reasons for agency approval of projects with significant environmental effects
- Foster multi-disciplinary interagency coordination in the review of projects
- Enhance public participation in the planning process

Other key requirements include carrying out specific noticing and distribution actions to maximize public involvement in the environmental review process. Public Resources Code section 21002 also states in part that it is the State's policy that public agencies:

> *… should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects.*

The CSLC staff determined that the Proposed Project, including the SCE Calcite Facilities, could result in significant environmental impacts and that an EIR is required to analyze the Proposed Project and feasible alternatives. The purpose of an EIR is not to recommend either approval or denial of a project. The EIR is an informational document that assesses potential environmental effects of a project and identifies mitigation measures and project alternatives that could reduce or avoid significant environmental impacts (State CEQA Guidelines, § 15121). Consistent with CEQA requirements, the CSLC has engaged in a good faith, reasonable effort towards full public disclosure of the potential effects of the Proposed Project. Prior to any decision on whether to approve the Proposed Project under a new lease, the CSLC must certify that (State CEQA Guidelines, § 15090):

- The Final EIR has been completed in compliance with CEQA

- The Final EIR was presented to the CSLC in a public hearing, and the CSLC reviewed and considered the information contained in the Final EIR prior to taking action on the Project
- The Final EIR reflects the CSLC's independent judgment and analysis

The CSLC must also adopt a plan to implement and monitor any identified mitigation measures (see Section 7.0, *Mitigation Monitoring Program*). State CEQA Guidelines section 15121, subdivision (b) further requires public agencies, before Project approval, to prepare written findings of fact for each significant environmental impact identified in an EIR. Possible findings are (State CEQA Guidelines, § 15091):

- The project has been changed (including adoption of mitigation measures) to avoid or substantially reduce the significant environmental effect
- Changes to the project that would lessen the significant environmental effect are within another agency's jurisdiction and have been or should be required by that agency
- Specific economic, legal, social, technological, or other considerations make the mitigation measures or alternatives identified in the EIR infeasible

Under CEQA, if the CSLC finds that the above considerations make identified mitigation measures or alternatives infeasible and that implementation of the Proposed Project would cause one or more significant effects to occur, the CSLC can only approve the Proposed Project under a new lease if it prepares a written statement that the lease and Proposed Project's benefits (including economic, legal, social, technological, or other region- or statewide benefits) outweigh the unavoidable adverse environmental effects. This "statement of overriding considerations" must state specific reasons for the decision supported by substantial evidence in the record (State CEQA Guidelines, § 15093).

1.4.1 Public Scoping

On October 13, 2020, pursuant to Public Resources Code section 21080.4 and State CEQA Guidelines section 15082, subdivision (a), the CSLC issued the Notice of Preparation (NOP) of a Draft EIR for the Proposed Project to responsible and trustee agencies, Tribes, and other interested parties. Through the NOP, the CSLC solicited written and verbal comments on the EIR's scope during a 30-day comment period and held two virtual public scoping meetings on October 28, 2020, to solicit verbal comments on the scope of the EIR. Meeting transcripts and written comments are provided in Appendix C. Table 1-1 lists the NOP commenters.

Table 1-1. Scoping Comments	
Date	**Commenter**
Agencies	
11/6/20	San Bernardino County Land Use Services Department
11/12/20	San Bernardino County Supervisors Robert Lovingood and Dawn Rowe
11/13/20	Town of Apple Valley
11/13/20	California Department of Fish and Wildlife
11/17/20	Marine Corps Air Ground Combat Center
Organizations	
10/14/20	California Unions for Reliable Energy
11/3/20	Saint Joseph Monastery
11/5/20	Scenic 247 Committee
11/11/20	Desert Tortoise Council
11/12/20	Mojave Desert Land Trust
11/13/20	Lucerne Valley Economic Development Association
11/13/20	Defenders of Wildlife
11/13/20	Coalition of individuals and community groups (67)
11/13/20	SC Wildlands
11/13/20	Morongo Basin Conservation Association
Individuals	
10/18/20	Brad Hicks
11/13/20	Bill Lembright
11/12/20	Neil B. Nadler
11/13/20	Brian and Sue Hammer

1.4.2 EIR Reviewing Sites

Having CEQA documents at readily accessible sites such as local libraries can be an effective way to provide the public with information about a project. The following three libraries in the Proposed Project vicinity can assist anyone wishing to review the EIR electronically:

- Lucerne Valley Janice Horst Branch Library: 33103 Old Woman Springs Rd., Lucerne Valley, CA 92356, (760) 248-7521
- Barstow Branch Library: 304 Buena Vista Street, Barstow, CA 92311-2806, (760) 256-4850

- Apple Valley Newton T. Bass Branch Library: 14901 Dale Evans Parkway, Apple Valley, CA 92307, (760) 247-2022

At this time, the CSLC offices are closed to the public due to public health and safety concerns regarding the Novel Coronavirus (COVID-19); therefore, it is not currently feasible to provide paper copies for review at the CSLC offices. Please contact Sarah Mongano at sarah.mongano@slc.ca.gov or (916) 574-1889 for the most up-to-date information on the availability of the EIR or if you would like to receive a hard copy. Please note that hard copies will be printed on demand and may take several days to produce and ship. The full document can also be viewed on the CSLC website at www.slc.ca.gov/Info/CEQA.html.

1.5 PURPOSE AND SCOPE OF EIR

The purpose of this EIR is to identify the significant effects on the environment of the Proposed Project, to identify alternatives to the Proposed Project, and to indicate the manner in which those significant effects can be mitigated or avoided (Pub. Resources Code, § 21002.1, subd. (a)). This EIR is intended to provide the CSLC and the CPUC with information required to exercise their jurisdictional responsibilities with respect to the approval of the Proposed Project under a new lease (to be considered at a noticed public hearing). Responsible agencies may use the information in the certified EIR to exercise their jurisdictional or regulatory responsibilities related to the Proposed Project.

An EIR is required to describe physical environmental conditions in the vicinity of the project in order to provide a baseline for comparison to determine potential project impacts and gauge their significance (State CEQA Guidelines, § 15125). Use of an appropriate baseline is also important for establishing alternatives to the proposed activities that can be analyzed in an EIR. The alternatives must be capable of reducing or avoiding one or more significant impacts of a project, but do not need to address impacts associated with existing conditions. The CSLC must identify the impacts of the Proposed Project that are known or reasonably foreseeable; if it finds that a particular impact is too speculative for evaluation, the CSLC should note its conclusion and terminate discussion of the impact (State CEQA Guidelines, § 15145).

1.6 AGENCY USE OF EIR AND ANTICIPATED APPROVALS

An EIR shall identify the ways in which the lead and responsible agencies would use the document in their approval or permitting processes (State CEQA Guidelines, § 15124, subd. (d)). The CSLC, as the lead agency preparing this EIR, is responsible for considering the effects, both individual and collective, of all activities involved in the Proposed Project, to the extent ascertainable; each responsible agency is responsible for considering the effects of those activities that it is required by law to carry out or approve (Pub. Resources Code, § 21002.1, subd. (d)). The information provided in this EIR, if certified, will assist the CSLC in any decision to approve or deny the Proposed Project.

The CPUC may also use information in the EIR as part of its review of the proposed SCE Calcite Facilities in accordance with CEQA. In addition to the CSLC, Table 1-2 lists other agency approvals that may be required for the Proposed Project.

Table 1-2. Other Anticipated Agency Permits

Agency	Permit, Approval, or Consultation	Covered Activity
Local/Regional		
Mojave Desert Air Quality Management District (MDAQMD)	Permit to Operate (PTO), Portable Equipment Registration, Fugitive Dust Control Plan	A PTO may be required for stationary equipment that triggers MDAQMD permitting thresholds (e.g., for standby generators). Portable Equipment Registration may be necessary for engines 50 horsepower or larger in use at the site. MDAQMD would have authority to review the Fugitive Dust Control Plan.
Regional Water Quality Control Board (Region 7, Colorado River)	Clean Water Act (CWA) section 401 Water Quality Certification; Clean Water Act section 402, General Permit for Storm Water Discharges Associated with Construction Activities	Protection of surface waters under the Clean Water Act.
San Bernardino County	Road/Highway Encroachment/ Crossing Permits; Permit to Drill, Building and Grading Permits	Gen-tie line crossing County roadways. Driveway aprons for proposed access roads may require an encroachment permit. Drilling of a water well on the solar generation plant site.
State		
California Public Utilities Commission	Permit to Construct	For construction and operation by SCE of the SCE Calcite Facilities.
California Department of Transportation (District 8)	Transportation and Encroachment Permits	Vehicle operation/movement. Modification/installation of a structure in State highway rights-of-way (SR-247).

Table 1-2. Other Anticipated Agency Permits		
Agency	**Permit, Approval, or Consultation**	**Covered Activity**
California Department of Fish and Wildlife	Incidental Take Permit for compliance with section 2081 of the California Endangered Species Act	Potential for take of State-listed threatened or endangered species.
Department of Toxic Substances Control	EPA Hazardous Waste Generator ID	Handling of any hazardous materials under Hazardous Waste Control Act of 1972
Federal		
U.S. Bureau of Land Management	Right-of-Way (ROW) Grant	Aerial easement for overhead gen-tie line crossing over a corner of public land (no Project components on BLM-administered land).
U.S. Fish and Wildlife Service	Habitat Conservation Plan for compliance with section 10 of the Endangered Species Act	Protection of federal listed, threatened, and endangered species.

1.7 ORGANIZATION OF EIR

The EIR is presented in the following sections.

- **Section 1.0 – Introduction** provides background on the Proposed Project and the CEQA process
- **Section 2.0 – Project Description** describes the CSLC lease area and Proposed Project elements, activities, and schedule
- **Section 3.0 – Cumulative Projects** identifies the projects that are analyzed for potential cumulative effects and the EIR's approach to cumulative impact analysis
- **Section 4.0 – Environmental Impact Analysis** describes existing environmental conditions, Proposed Project-specific impacts, mitigation measures, and residual effects for multiple environmental issue areas, and evaluates cumulative impacts
- **Section 5.0 – Project Alternatives Analysis** describes the alternatives screening methodology, alternatives rejected from full consideration, and alternatives carried forward for analysis, and analyzes impacts of each alternative carried forward
- **Section 6.0 – Other Required CEQA Sections and Environmentally Superior Alternative** addresses other required CEQA elements, including significant and

irreversible environmental and growth-inducing impacts, comparison of the Proposed Project and alternatives, and identification of the environmentally superior alternative

- **Section 7.0 – Mitigation Monitoring Program** describes the monitoring authority, enforcement and mitigation compliance responsibilities, and general monitoring procedures, and presents the mitigation monitoring table
- **Section 8.0 – Environmental Justice** describes existing conditions and Project-related effects related to environmental justice
- **Section 9.0 – Report Preparation Sources and References** lists the persons involved in preparation of the EIR and the reference materials used

The EIR appendices are summarized below.

- **Appendix A** contains an abridged list of major federal and state laws, regulations, and policies potentially applicable to the Proposed Project organized by issue area
- **Appendix B** contains the Draft EIR distribution list
- **Appendix C** includes scoping information, including a copy of the NOP, comment letters received in response to the NOP, scoping hearing transcripts, and an index to where each NOP comment is addressed in the Draft EIR
- **Appendix D** contains the Stagecoach Water Supply Assessment
- **Appendix E** presents the detailed description of the SCE Calcite Facilities
- **Appendix F** contains the Biological Resources Technical Report (with attachments including Preliminary Jurisdictional Delineation Report, Mohave Ground Squirrel Habitat Assessment, Golden Eagle Habitat Assessment, Joshua Tree inventory summary memo). This appendix also includes the biological resources information related to the SCE Calcite Facilities.
- **Appendix G** is a non-confidential version of the Cultural Resources Technical Report
- **Appendix H** includes the Air Quality and Greenhouse Gas Emissions Calculations
- **Appendix I** includes the Noise and Vibration Calculations

2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

Aurora Solar, LLC (Aurora Solar or Applicant), a wholly owned subsidiary of Avangrid Renewables, has applied to the California State Lands Commission (CSLC) for lease of State-owned school lands managed by the CSLC on which to construct and operate the Stagecoach Facilities, a solar generation project. The Proposed Project would generate up to 200 megawatts (MW) of solar energy using photovoltaic (PV) and battery storage technologies.

The Stagecoach Solar Generation Plant would be located in San Bernardino County, approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley. It would be located east of Interstate 15, south of Interstate 40, and about 1.5 miles west of State Route (SR) 247/Barstow Road (Figure 2-1). Sidewinder Mountain is located to the south, Stoddard Ridge is located to the north, and West Ord Mountain is located to the east.

The Proposed Project includes the solar generation plant, ancillary project facilities supporting operations and maintenance (O&M), a battery energy storage system (BESS), a project substation, and a 9.1-mile 220 kilovolt (kV) electrical generation intertie (gen-tie) line. Collectively, these are the Stagecoach Facilities. Other terms used throughout the analysis in Section 4 are the following two subsets of the Stagecoach Facilities, which are separately analyzed:

- Stagecoach Solar Generation Plant: the solar arrays, BESS, project substation, and O&M facilities
- Stagecoach Gen-tie Line: a new transmission line that would run approximately 9.1 miles, connecting the Stagecoach Solar Generation Plant to the proposed Southern California Edison (SCE) Calcite Substation

Section 2.2 presents a description of the Stagecoach Facilities components. Section 2.3 describes construction activities; operation and maintenance (O&M) activities are described in Section 2.4; and Section 2.5 describes closure and decommissioning activities.

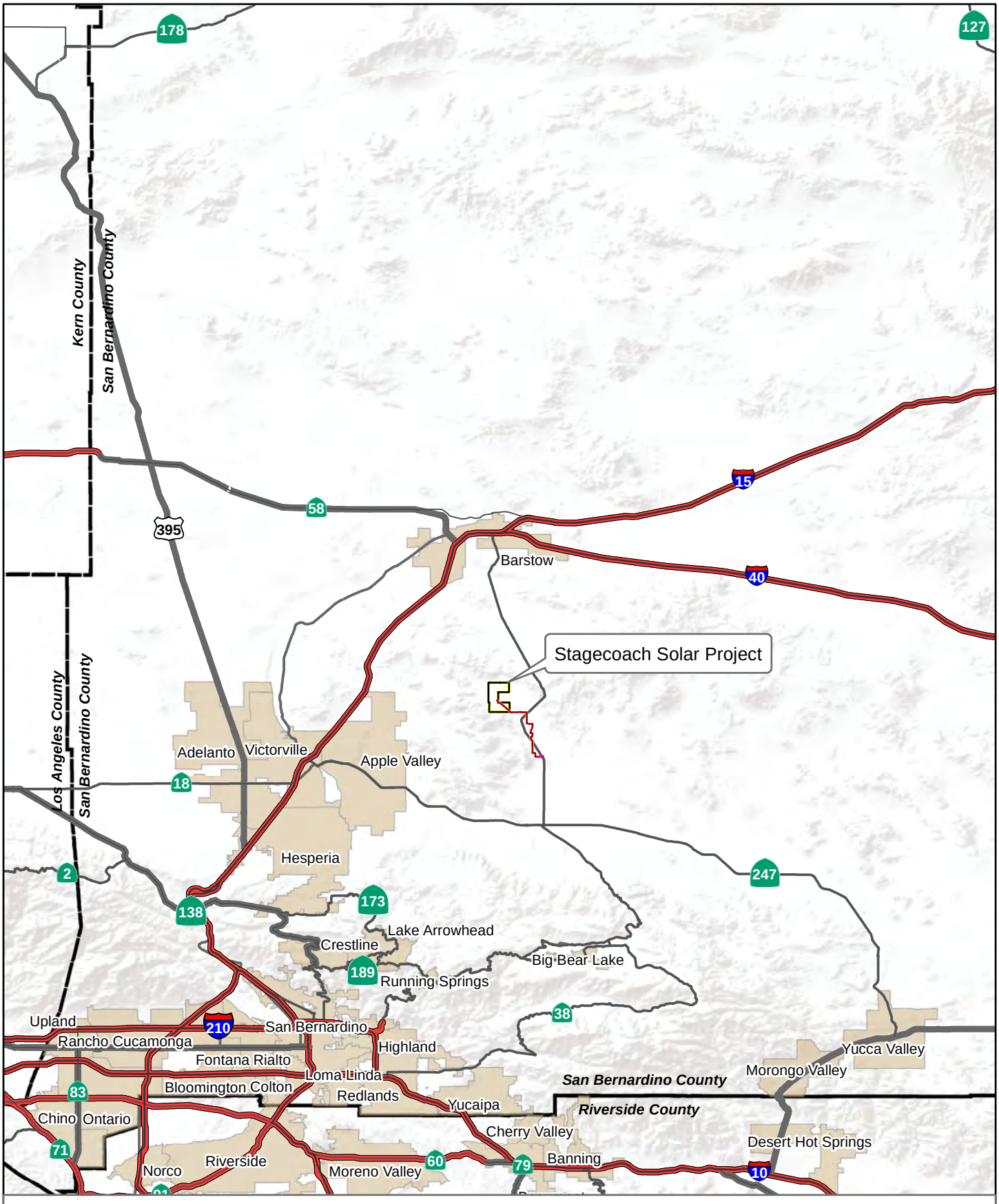


Figure 2-1

Stagecoach Solar Project Region

The Stagecoach Facilities area boundary encompasses a total of 3,570 acres comprising six undeveloped parcels managed by the CSLC,[7] and a gen-tie line located on both CSLC-managed State school land and leased private land. Within the 3,570-acre area managed by the CSLC, the Stagecoach Solar Generation Plant components would occupy approximately 1,975 acres. The electricity generated by the Stagecoach Solar Generation Plant and transmitted through the Stagecoach Gen-tie Line would be sold to a power purchaser through a power purchase agreement.

Adjacent to the Proposed Project area are additional State lands, private lands under the jurisdiction of San Bernardino County, and federal lands managed by the Bureau of Land Management (BLM), as shown in Figure 2-2a, Proposed Project (Overview), Figure 2-2b, Proposed Project (Solar Generation Plant), and Figure 2-3, Land Management and Ownership.

Information in this Section is based on the Proposed Project description provided by Aurora Solar to the CSLC as part of its Application for Lease of State Lands (Aurora 2016), supplemented by additional information provided by the Applicant in responses to data requests from the CSLC. The Applicant's objectives for the Proposed Project are presented in Section 1.2.

The SCE Calcite Facilities are proposed to be constructed and would be owned by SCE. The SCE Calcite Facilities are evaluated as part of the Project because electricity generated by the Stagecoach Solar Generation Plant would be interconnected to the proposed SCE Calcite Facilities. The SCE Calcite Facilities include the SCE Calcite Substation and its associated distribution line, communication facilities, and interconnection structures to the existing Lugo-Pisgah corridor. The information in this Section describing the SCE Calcite Facilities is summarized from SCE's more detailed description (provided in Appendix E). The SCE Calcite Facilities and its proposed construction and O&M activities are described in Section 2.6.

2.2 DESCRIPTION OF STAGECOACH PROJECT COMPONENTS

The following subsections describe the various components of the proposed Stagecoach Project. The Stagecoach Facilities will be constructed, owned, and operated by Aurora Solar, LLC. The construction, operation, and decommissioning activities necessary to implement the Proposed Project are described in Sections 2.4 through 2.5.

[7] Assessor Parcel Numbers (APNs) 046-430-101, 046-430-102, 046-430-104, 046-430-105, 041-716-254, 041-716-253.

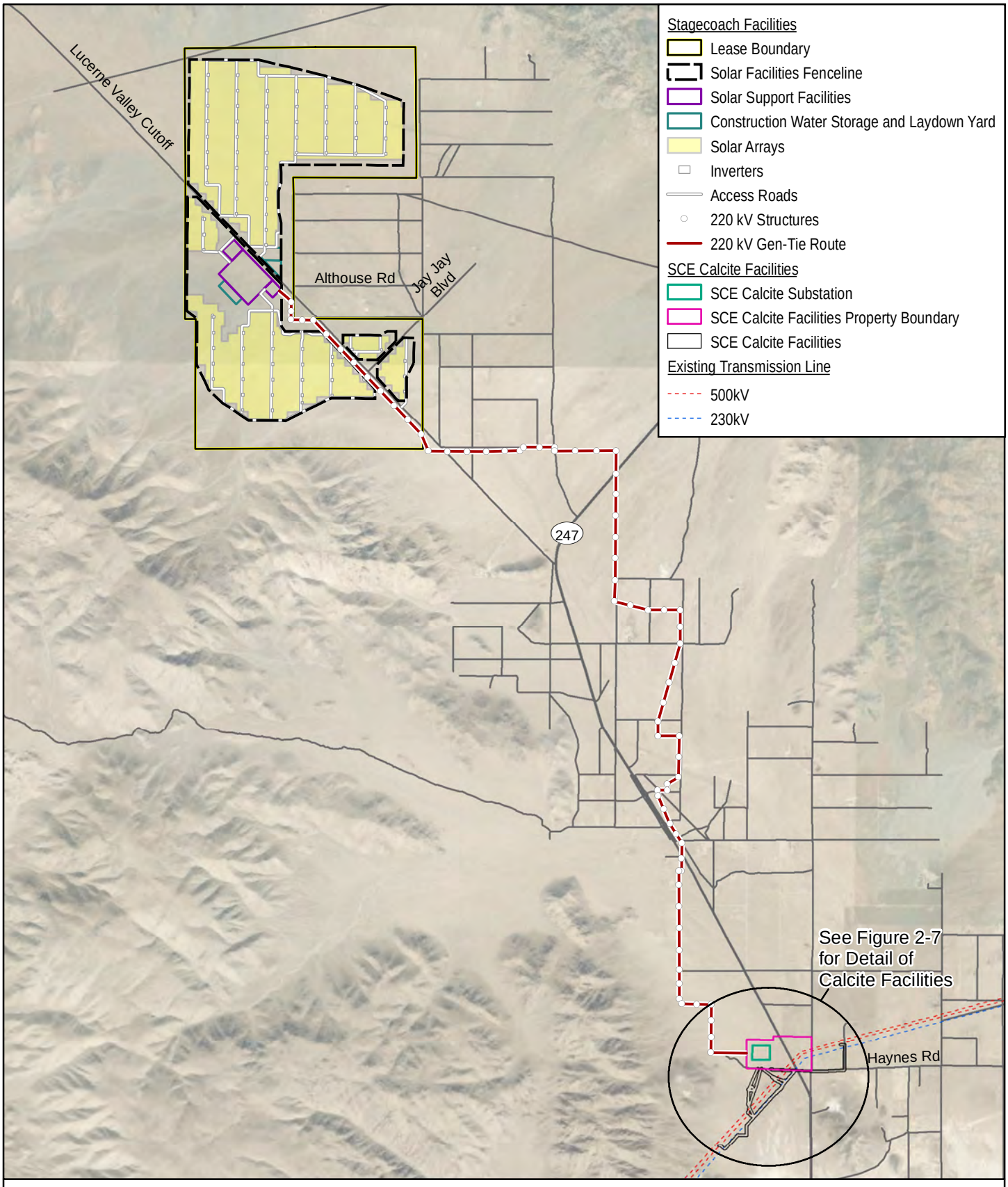


Figure 2-2a

Proposed Project (Overview)

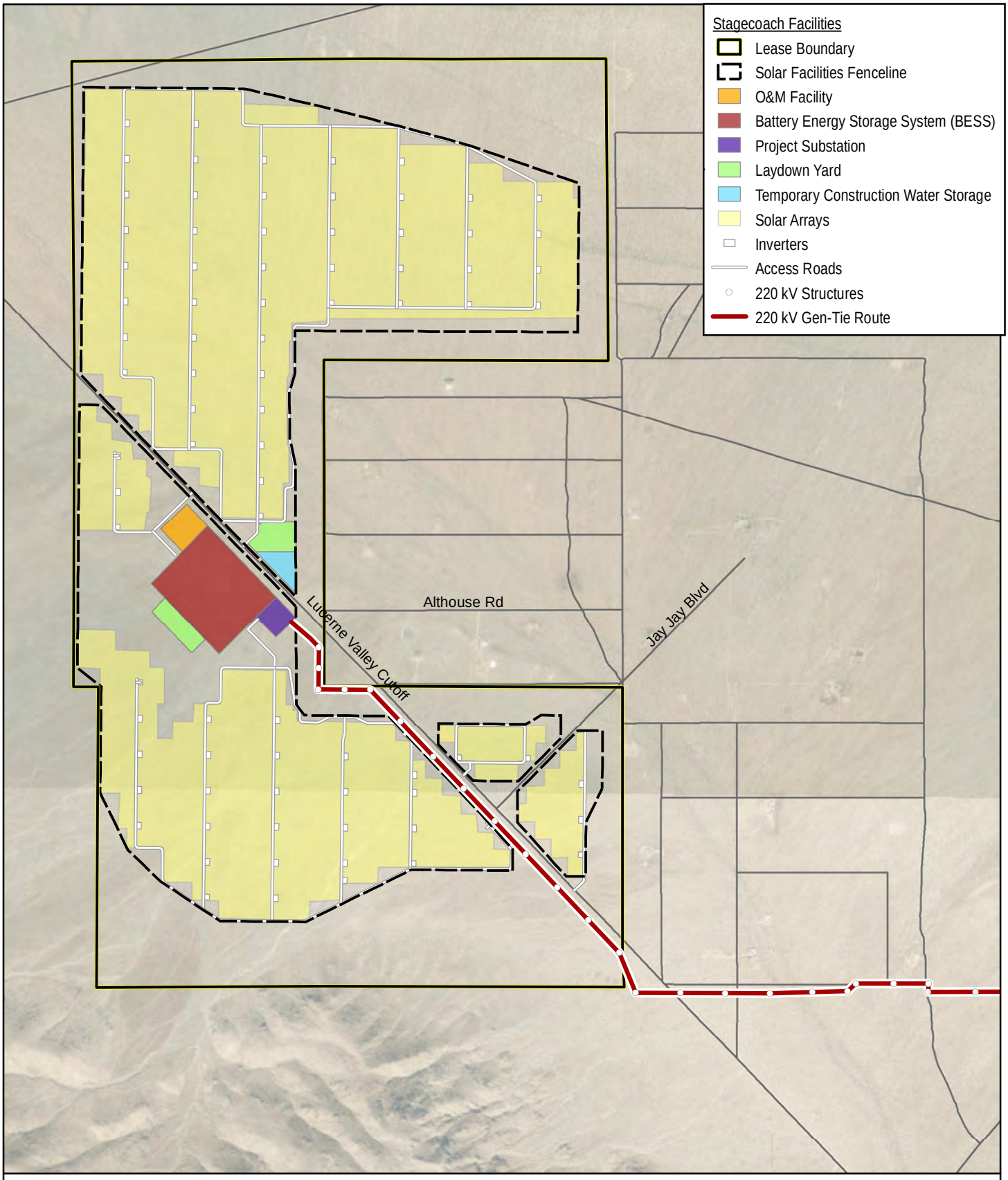


Figure 2-2b

Proposed Project (**Solar Generation Plant**)

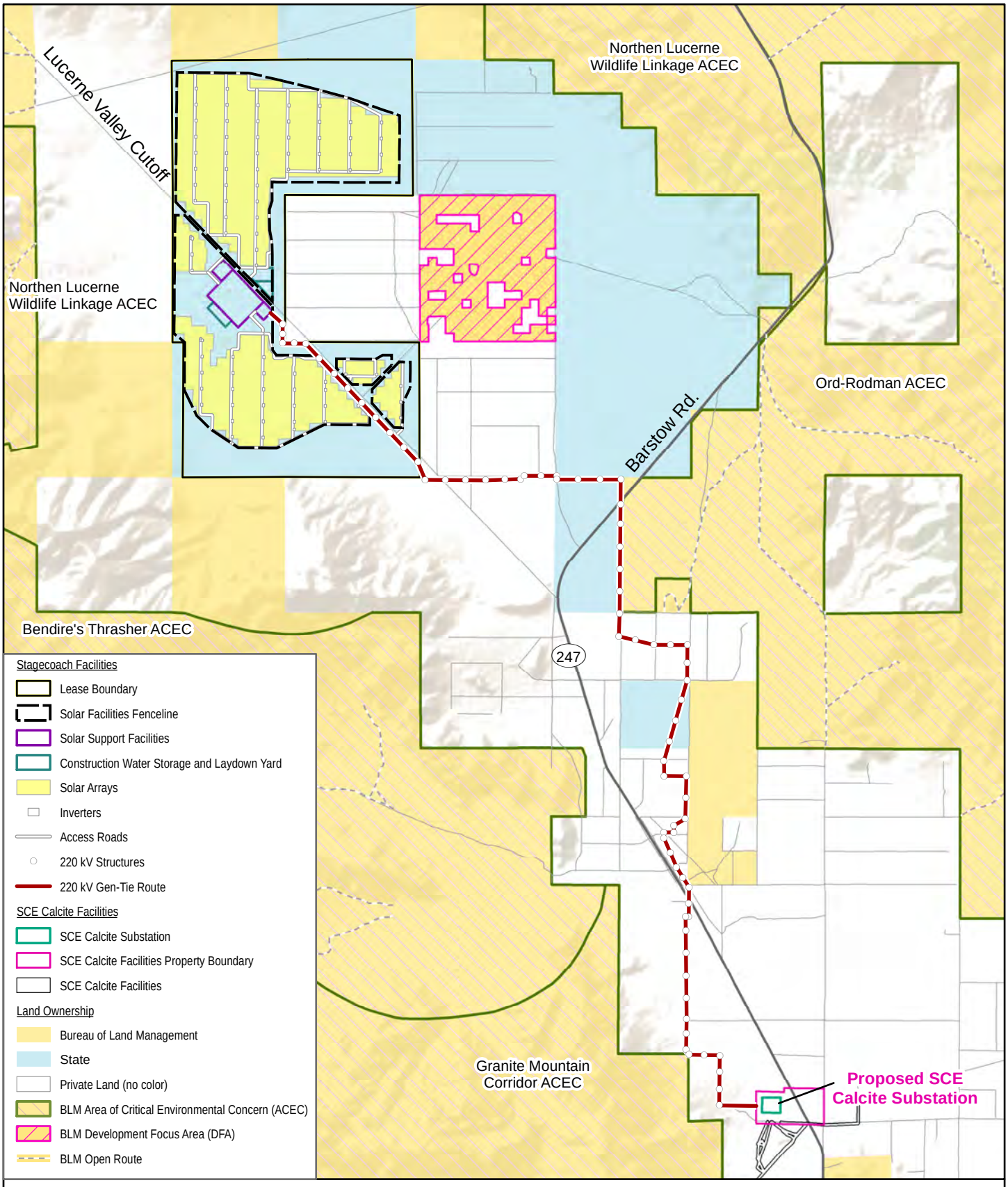


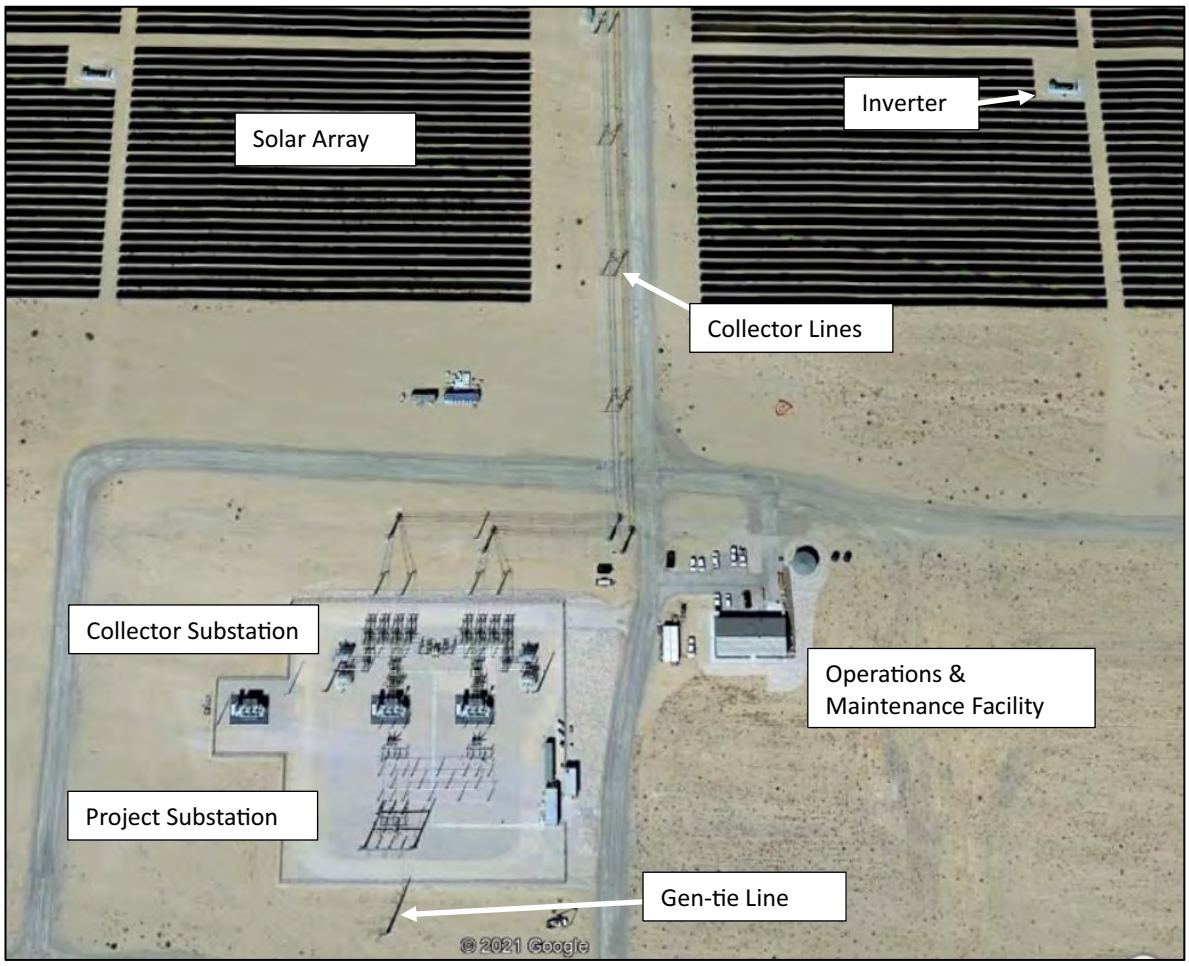
Figure 2-3

Land Management and Ownership

2.2.1 Project Overview

The Stagecoach Facilities include the following primary components, illustrated in Figure 2-4:

- Solar PV modules (also referred to as solar panels) and inverters, with generating capacity of up to 200 MW at the point of interconnect
- An underground and overhead 34.5 kV collection system linking the PV modules to the onsite substation
- A 5-acre on-site 34.5 kV/220 kV project substation
- A 5,000-square-foot operations and maintenance (O&M) facility
- A BESS of up to 56 acres and approximately 200 to 800 MW hours of capacity (see Figure 2-5)
- Access roads within the fence line of the Proposed Project area
- Access roads to enter the Proposed Project area
- Fencing and site security systems
- Permanent groundwater wells or an on-site water tank using water transported from off-site for the O&M building and to facilitate washing of the PV modules
- An approximately 9.1-mile-long 220 kV generation intertie transmission line (Stagecoach Gen-tie Line) to interconnect the Stagecoach Solar Generation Plant with the proposed SCE Calcite Facilities
- A fiber optic line from the project substation to the SCE Calcite Substation within the Stagecoach Gen-tie Line right-of-way (ROW; installed mostly underground, with a few overhead segments on wood poles)



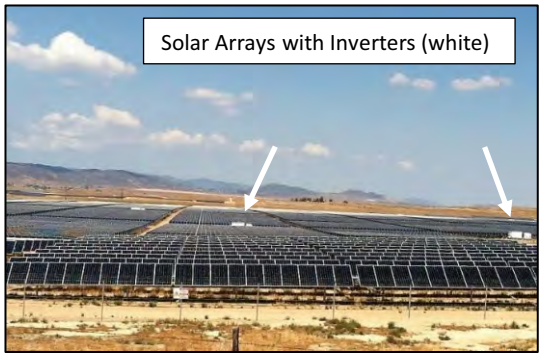


Figure 2-4.

Typical Components of Solar Generation Plants

Source: Avangrid, 2020.

Figure 2-5.

Example of Battery Energy Storage System

Table 2-1 defines disturbance acreage for key Project components.

Table 2-1. Stagecoach Facilities Project Disturbance Footprint

Project Component	Temporary Disturbance (acres)[1]	Permanent Disturbance (acres)[1]
Solar Field Components		
Solar arrays (including electrical collection system, transformers, inverters)	—	1,800 acres
Construction Laydown and Parking Areas	15 acres	
Substation	—	5 acres
Battery Energy Storage System	—	56 acres
O&M Building	—	5 acres
Interior Access Road	—	50 acres
Stormwater Control Structures	—	20 acres
Generation-Tie Line Right-of-Way (9.1 miles long x 150 feet wide)		
Gen-tie Line Access Road & Spur Roads	—	15 acres
Gen-tie Line Structures	—	10 acres
Temporary Construction Pull Sites & Tower Erection	50 acres	—
Temporary Guard Structures at Road Crossings	5 acres	—
Fiber Optic Line (underground except for 6 poles at road crossings)	18 acres	0.007 acres
Total Stagecoach Facilities Disturbance	**88 acres**	**1,961 acres**

[1] Disturbance estimates will be further refined during final engineering. Temporary disturbance areas would result from construction activities and can be revegetated after construction is completed. Permanent disturbance areas would be occupied by Project components throughout its operational life.

SCE Calcite Substation disturbance estimates are included in Section 2.6.1.

2.2.2 Stagecoach Solar Generation Plant

The Stagecoach Solar Generation Plant is part of the Stagecoach Facilities and encompasses: (1) solar arrays (rectangular groups of solar panels), each with a power conversion station called an inverter; (2) an electrical collection system made up of low voltage powerlines; (3) a BESS; and (4) a substation that collects the power generated from the solar arrays. Figure 2-4 illustrates the typical components of a solar generation plant.

In addition, the Stagecoach Solar Generation Plant includes access roads between power conversion stations and along outer edges of PV arrays as well as up to five solar

meteorological (MET) stations located in strategic areas throughout the solar arrays. The boundary of the proposed solar generation plant has been adjusted in two places (along Akeley Road and along Gazelle Road) to ensure at least a 600-foot buffer around two private parcels with residences on them.

The access roads within the boundaries of the Stagecoach Solar Generation Plant would be approximately 16 feet wide. Typical access road construction would consist of a compacted subgrade and placement of Geotextile product (depending on geotechnical investigation results) topped off with 6 to 8 inches of coarse aggregate. A typical permanent solar MET station is shown in Figure 2-6. These stations typically are mounted on a tripod with a data line that connects underground to the O&M building. The stations typically are no more than 15 feet in height and include instrumentation to determine: wind speed and direction, ambient temperature, soiling, albedo, and solar irradiance.

2.2.2.1 Solar Photovoltaic Panels

The Stagecoach Solar Generation Plant includes a single axis tracking system with bifacial crystalline silicon PV modules (examples are presented in Figure 2-4).[8] The tracking system adjusts the tilt of solar arrays to track the change in the sun's position over the course of a day. PV technology and supporting equipment continue to evolve, with higher efficiency modules and more cost effective and efficient equipment becoming available year after year. Once the solar generation plant site is ready for equipment installation, the state-of-the-art equipment available at that time will be used. PV module sizing does not typically change as this is largely a commodity item. The fundamental designs for other components and footprints do not typically change. Higher efficiency systems could potentially decrease the overall footprint of the Proposed Project. The PV modules used for the Proposed Project would comply with industry standard quality testing. The PV modules would be electrically connected to the grounding system of the facility in accordance with local codes and regulations. The final PV module selection would be determined during the detailed engineering phase, after project approval.

PV modules generate electricity by converting the energy of the sun's photons into direct current (DC), which is converted to alternating current (AC) at the facility's converters. PV modules can be wired in series and/or parallel to obtain a required nominal voltage. The PV modules would be interconnected and arranged to increase overall efficiency and reliability.

Depending on final engineering, the solar PV module arrays (an assemblage of PV modules) may be either equal in length, creating a uniform rectangular footprint, or vary in length to avoid sensitive resources and to provide a setback from property boundaries. The final elevations of the PV module arrays from the ground would be determined during the detailed project design process factoring in constructability, need to optimize benefits

[8] Bifacial solar modules can produce power from both sides of the module, increasing total energy generation.

Source: Avangrid, 2020.

Figure 2-6.

Typical Meteorological (MET) Station

of bifacial modules, and wind loading. It is anticipated that modules would not exceed approximately 18 feet above the ground surface in their full tilt (upright) position.

Racking refers to the support structure on which the solar PV modules are mounted. Racking allows the modules to be positioned for maximum capture of the sun's solar energy. The PV module mounting structure would be a single-axis tracking system in which modules rotate through the course of the day to track the sun. Rows of solar modules are aligned north to south with trackers rotating the modules from east to west—tracking the sun throughout the day.

The trackers and PV modules are typically mounted on metal pier foundations. The piers would be driven into the ground using a pier vibratory/rotary driving technique. Depending on the final geotechnical analysis, it may be necessary to pre-drill some of the holes before driving the piers. Driven and pre-drilled pile foundations offer multiple benefits, including quick installation and minimal site disturbance. Whether piers are driven directly or pre-drilled, no concrete would be used. This method allows for easy site reclamation at the end of the Stagecoach Solar Generation Plant's lifecycle. Pier depth is typically 6 to 10 feet below ground surface. Actual depth would depend on the final geotechnical investigation.

2.2.2.2 Electrical Collection System

PV modules would be electrically connected to adjacent modules to form module strings using wiring attached to the support structures. PV module strings would be electrically connected in parallel through trunk line home-run conductors or the string wiring would terminate at PV module array combiner boxes. Multiple combiner boxes would feed a power conversion (inverter) station. The Stagecoach Solar Generation Plant would require up to 83 inverter stations located throughout the solar field. All equipment at power conversion stations will be designed for operation in the desert environment in outdoor enclosures.

All 34.5 kV AC lines will be run from individual inverters to the substation on the Stagecoach Solar Generation Plant site where the power would be stepped up from 34.5 kV to 220 kV via a main step-up transformer.

These power conversion stations would be either shop fabricated or field assembled on-site as single units and could be mounted on skids. The skid or individual components would be mounted on concrete foundation pads or concrete piers, depending on local soil conditions. All electrical equipment would be either outdoor rated or mounted within enclosures designed specifically for outdoor installation.

2.2.2.3 Project Substation

The Stagecoach Facilities would include construction of a substation with two adjacent components. The collector component would gather the power generated from the solar arrays via 34.5 kV powerlines. The project substation component would step-up energy

generated on-site at 34.5 kV to 220 kV for transmission through the Stagecoach Gen-tie Line to SCE's Calcite Facilities, from where it would be delivered to the electrical grid (see Section 2.6). The substation would be located in an approximate 5-acre yard adjacent to the Stagecoach O&M building (see Figure 2-2b, Proposed Project (Solar Generation Plant)).

Switching and transformer equipment, which vary in height up to approximately 60 feet, would be located within the substation, as would a control enclosure, an interior access road, and a parking area for utility vehicles. The substation would include necessary setbacks and spacing between pieces of equipment and include a drainage collection area, consistent with local and state regulations. Transformers would be placed within a secondary containment area as required by local and state regulations in order to prevent pollution of soil and water in the event of a spill of the insulating transformer oil.

A 100 kW backup power propane generator (operating up to 300 hours per year) would be located within the substation for periodic use during construction and operation. Propane would be stored in a 2,000 gallon tank near the O&M building.

The substation would use task lighting as necessary to allow inspections to be completed and provide for safe movement within the substation limits. Maintenance activities are not anticipated to be completed during evening and night hours; lights would be turned on only if needed. All lights would be directed downward to minimize the potential for spillover to adjacent properties. The substation would be separately fenced in compliance with North American Electrical Reliability Corporation (NERC) standards for safety and security.

2.2.2.4 Operations and Maintenance Building

The O&M building would be approximately 5,000 square feet and would be located adjacent to the substation site (see Figure 2-2b, Proposed Project (Solar Generation Plant)) on CSLC lands. A single-story steel building would support operations and maintenance equipment and supplies, telecommunications equipment, administrative and operational offices, and bathroom facilities serviced by a private septic system and leach field. The private septic system will consist of a septic tank and underground leach field in the vicinity of the O&M building. Final design, including size of leach field, would be a function of the final geotechnical analysis. The design will be in accordance with any local regulations and conform to current industry standards. A fenced outdoor storage area would be located adjacent to the O&M building for additional storage of equipment. A parking area, with Americans with Disabilities Act (ADA) compliant parking, would be located outside the O&M building. Additionally, a second 100 kW backup power propane generator (also operating up to 300 hours per year) would serve the O&M building as needed, initially during construction but primarily during operation.

The supervisory control and data acquisition (SCADA) system would be run between the O&M building, the onsite substation, and the BESS.

2.2.2.5 On-site Power

The solar generation plant would not be connected to the SCE electric distribution system to receive power, so it would use Project-generated electricity to provide power for the O&M facility, SCADA, MET towers, and security lighting (also called “back feed power”). This would be done via a line tapping the Stagecoach Gen-tie Line, which would start at the substation. The voltage would be stepped down to distribution voltage via a transformer. The components required to implement this system would be within the existing defined disturbed areas of the Stagecoach Solar Generation Plant (likely within the substation area), with details defined in final engineering.

2.2.2.6 Site Security, Fencing, and Lighting

The Stagecoach Solar Generation Plant would be enclosed with fencing that meets National Electrical Safety Code (NESC) requirements for protective arrangements in electric supply stations. Examples of acceptable fencing may include an 8-foot-tall perimeter fence (7-foot-high chain-link perimeter fence with 1-foot of 3-wire barb along the top). The fencing type and design may be modified based on wildlife concerns of the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).

A single perimeter fence would enclose the Stagecoach Solar Generation Plant, the O&M building, and BESS. Within the site perimeter fence, the substation would be enclosed with its own perimeter fencing that is NERC compliant for substations, as noted in Section 2.2.2.3.

Access control gates would be installed at the substation driveway, which would be constructed off an improved existing roadway with direct access to Lucerne Valley Cutoff (see Figure 2-2b, Proposed Project (Solar Generation Plant)). Gates would also control access to the Stagecoach Solar Generation Plant, which includes the PV arrays, substation, the O&M building, and the BESS.

Site access gates would be a swing or rolling type and would be controlled or locked to prevent unaccompanied visitors from accessing the facility. All facility personnel, contractors, agency personnel, and visitors would be logged in and out of the facility at the main office during normal business hours. Visitors and non-project employees would be allowed entry only with approval from a staff member at the Stagecoach Solar Generation Plant.

Security cameras may be installed at the Proposed Project site and be monitored at an off-site location. The substation, O&M building, and outdoor storage and parking areas would include security lighting designed to minimize light pollution and preserve dark skies. Exterior lighting fixtures to be used in the collection substation and at the O&M building would be downward cast fixtures. Where used, lighting would be kept to a minimum and

would use the lowest intensity required to meet safety requirements. All exterior lighting would be placed on an auto-off switch to further minimize the impacts of light pollution.

2.2.3 Battery Energy Storage System (BESS)

The Stagecoach Solar Generation Plant would include a battery energy storage system (BESS) facility within the Proposed Project site. The BESS would include up to 200 MW of battery storage capable of discharging up to 800 MWh of energy. The BESS would be capable of charging from the solar array and from the grid. It would be located on up to 56 acres adjacent to the O&M building. It would comprise a series of batteries to store power generated by the solar arrays, allowing the transfer of this energy to the electrical grid when needed. An example of a BESS facility is illustrated in Figure 2-5 (Example of Battery Energy Storage System).

The individual components of the BESS would be housed in metal enclosures. Battery technologies and fire suppression standards are evolving. The selected technology would include HVAC and fire suppression equipment suitable to the battery technology implemented following the final design phase. Each individual enclosure would be mounted on a concrete pad foundation and located inside the perimeter fence. The height of the BESS components would be up to approximately 20 feet. Battery storage systems may require their own inverters, which could be incorporated into the battery banks or may be standalone inverters dedicated to the storage system. Step-up transformers and an underground collection system would be similar to those systems installed for the solar generation equipment.

The BESS design would incorporate necessary setbacks and spacing between pieces of equipment, consistent with local and state regulations. Depending on the battery technology used, the use of hazardous materials may require secondary containment, which would be implemented in accordance with regulatory requirements. BESS technology assumptions include lithium-ion chemistry due to favorable energy density, long cycle life, and low self-heating rating. The Project BESS would use one of the following technologies:

- LCO – Lithium Cobalt Oxide
- LFP – Lithium Iron Phosphate
- NMC – Lithium Nickel Manganese Cobalt Oxide

The BESS enclosures would be rated for operation consistent with climatic conditions and incorporate the latest safety and design standards.

2.2.4 Stagecoach Gen-tie Line

2.2.4.1 220 kV Transmission Line

The point of interconnection for the Stagecoach Facilities to deliver power to the SCE grid would be the SCE Calcite Facilities located approximately 5.5 miles south of the Proposed Project solar field (see Figure 2-2a, Proposed Project (Overview)). The overhead 220 kV gen-tie line could begin at the substation and extend along an approximately 9.1-mile route to interconnect with the SCE Calcite Facilities, described in Section 2.6.

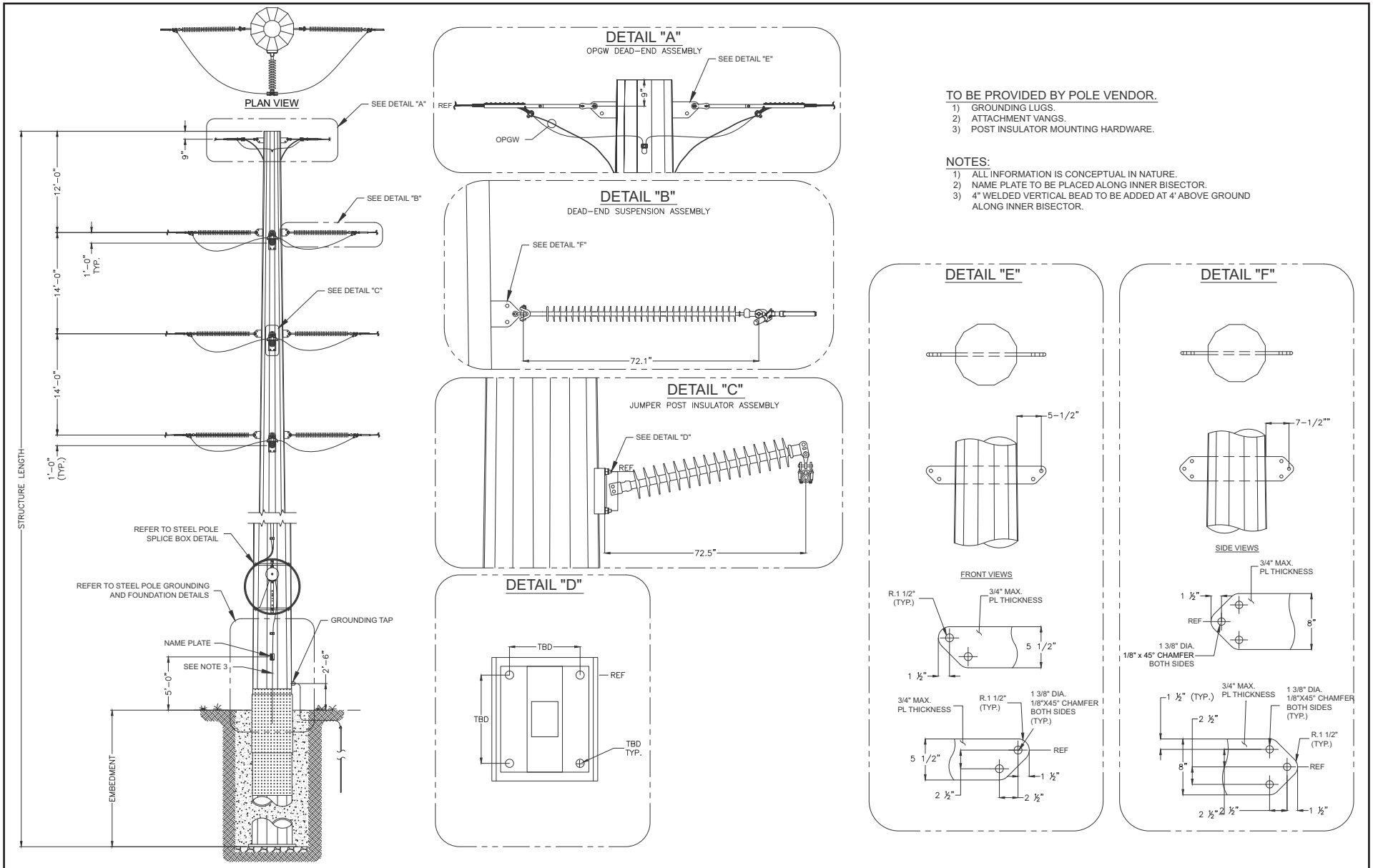
The single circuit transmission structures would be either tubular steel poles or lattice steel towers, approximately 80 feet tall and spaced approximately 800 feet apart (see Figures 2-7a, 2-7b, and 2-7c, which illustrate three types of typical 220 kV transmission line pole structures).

Aurora Solar proposes to construct the Stagecoach Gen-tie Line on the route shown in Figure 2-2a and as described below. The route would be located on State-owned school lands managed by CSLC and private lands beginning at the onsite substation adjacent to southwest side of Lucerne Valley Cutoff Road in the central area of the Stagecoach Solar Generation Plant. Once off of the solar generation plant lease area, the Stagecoach Gen-tie Line route would cross private lands in a southerly direction to tie into the proposed SCE Calcite Facilities west of Barstow Road/SR-247, approximately 5.5 miles southeast of the solar generation plant.

Under or immediately adjacent to the Stagecoach Gen-tie Line, unpaved access roads would be needed for operational maintenance. For construction, no new access routes would be needed to gain access to the Stagecoach Gen-tie Line. Public roads, private properties, and a ROW corridor of 75 feet on either side of the gen-tie centerline (150 feet total) will suffice. There would be temporary tension/pulling sites during construction where the angles of the route change. These sites could temporarily extend outside of the ROW if necessary.

2.2.4.2 Fiber Optic Line

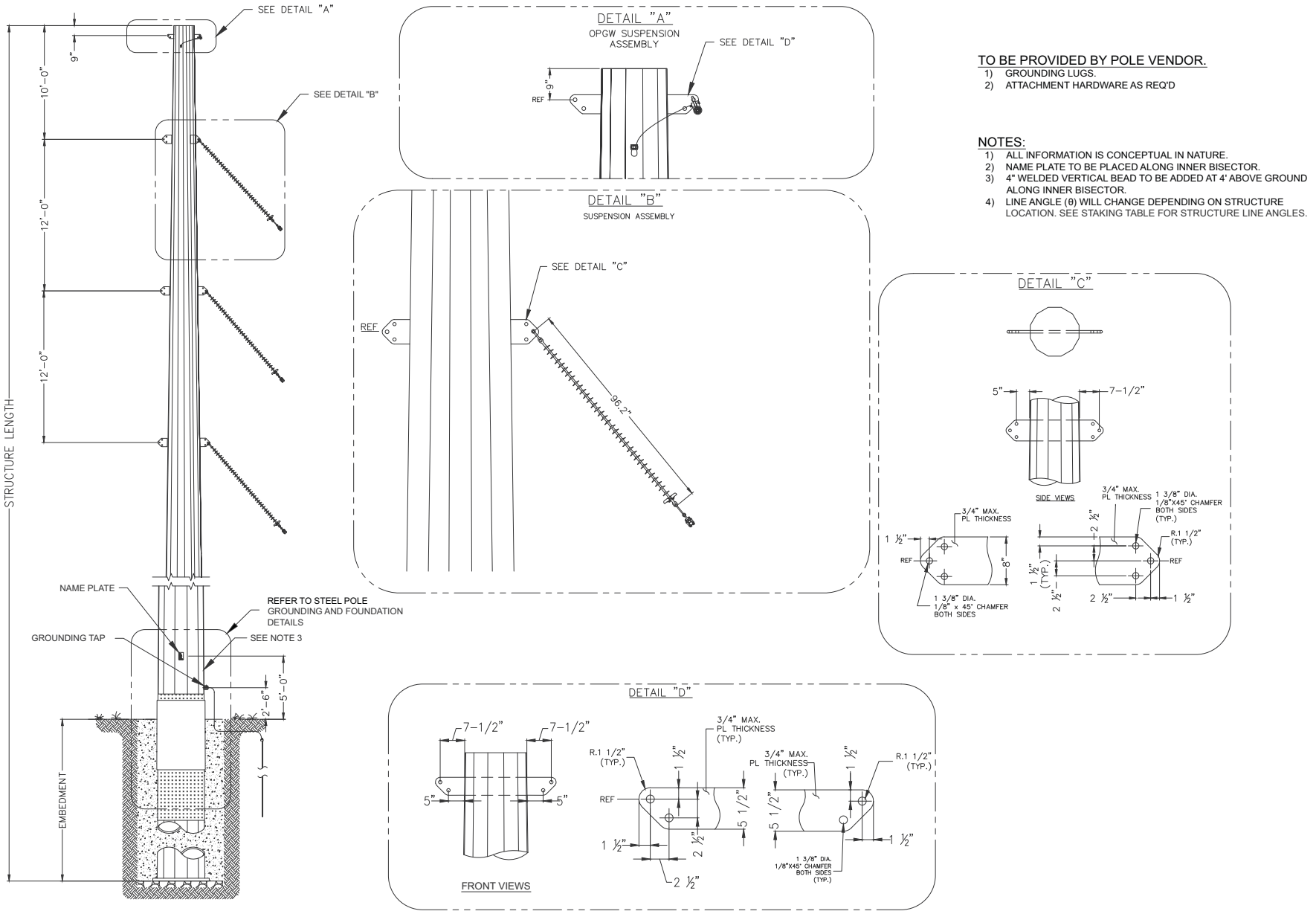
A fiber optic line would be installed from the Stagecoach Solar Generation Plant's substation to the SCE Calcite Substation within the Stagecoach Gen-tie Line ROW. The purpose of the fiber optic line is to transmit data about the operation of the gen-tie line. The underground fiber optic cable would be an armored, underground, direct-bury, gel-filled or loose-tube fiberoptic cable with 24 or more fibers. It would be plowed into the ground in a single trench with a depth of up to 24 inches and potentially deeper at road crossings, in accordance with County regulations.



Source: Avangrid, 2020.

Figure 2-7a.

Typical 220 kV Gen-Tie Line Dead-End Structure



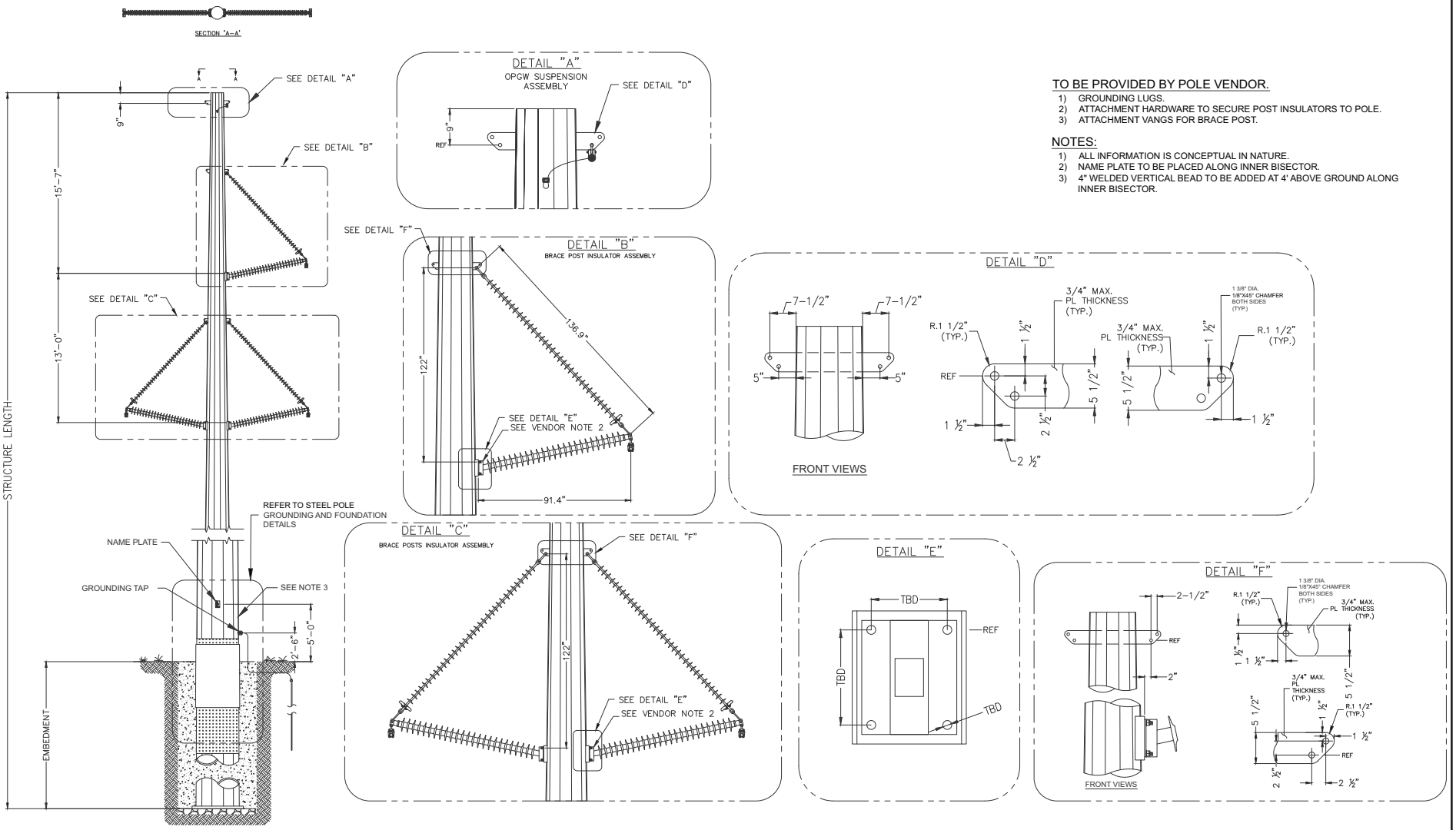
TO BE PROVIDED BY POLE VENDOR.
1) GROUNDING LUGS.
2) ATTACHMENT HARDWARE AS REQ'D

NOTES:
1) ALL INFORMATION IS CONCEPTUAL IN NATURE.
2) NAME PLATE TO BE PLACED ALONG INNER BISECTOR.
3) 4" WELDED VERTICAL BEAD TO BE ADDED AT 4' ABOVE GROUND ALONG INNER BISECTOR.
4) LINE ANGLE (θ) WILL CHANGE DEPENDING ON STRUCTURE LOCATION. SEE STAKING TABLE FOR STRUCTURE LINE ANGLES.

Source: Avangrid, 2020.

Figure 2-7b.

Typical 220 kV Gen-Tie Line Running Angle Structure



TO BE PROVIDED BY POLE VENDOR.

1) GROUNDING LUGS.
2) ATTACHMENT HARDWARE TO SECURE POST INSULATORS TO POLE.
3) ATTACHMENT VANGS FOR BRACE POST.

NOTES:

1) ALL INFORMATION IS CONCEPTUAL IN NATURE.
2) NAME PLATE TO BE PLACED ALONG INNER BISECTOR.
3) 4" WELDED VERTICAL BEAD TO BE ADDED AT 4' ABOVE GROUND ALONG INNER BISECTOR.

Source: Avangrid, 2020.

Figure 2-7c.

Typical 220 kV Gen-Tie Line Tangent Structure

There would be three segments of overhead fiber optic line where the line crosses County roads: at Greastwood Lane (just west of Lucerne Valley Cutoff), at No End Road (just east of Barstow Road), and at an unnamed road 0.8 miles northwest of the SCE Calcite Substation. These segments would be approximately 150 feet, 200 feet, and 250 feet in length (600 feet total). The cable would transition from underground to overhead ADSS on a wooden pole at each end of the 3 overhead segments (resulting in 6 poles total).

2.2.5 Fire Safety

Fire protection would be provided to limit risk of personnel injury, property loss, and possible disruption of project operation. Fire protection would include minimizing flammable materials in the solar field, such as vegetation.

A Fire Management and Prevention Plan would be prepared for construction, operation, and decommissioning of the facility. The plan would include measures to safeguard human life, prevent personnel injury, preserve property, and minimize downtime due to fire or explosion. Of concern are fire-safe construction, reduction of ignition sources, control of fuel sources, availability of water, and proper maintenance of firefighting systems. The plan would be coordinated with the San Bernardino County Fire Department.

During construction, a fire suppression system may be placed in service if required by San Bernardino County Fire Department. In addition, standard defensible space requirements would be maintained surrounding any welding or digging operations. Fire extinguishers and other portable fire-fighting equipment would be available onsite, as well as additional water for use at the O&M facility. These fire extinguishers would be maintained for the full construction duration in accordance with local and federal Occupational Safety and Health Administration (OSHA) requirements.

During operation, portable fire extinguishers would be located in, but not be limited to, office spaces, hot work areas, flammable storage areas, and mobile equipment such as work trucks and other vehicles. Fire-fighting equipment would be marked conspicuously and be accessible. Portable equipment would be routinely inspected, as required by local and federal laws, ordinances, regulations, and standards, and replaced immediately if defective or needing charge.

Fire safety during operations is further discussed in Section 2.2.5, *Fire Safety During Operations*.

2.3 STAGECOACH FACILITIES CONSTRUCTION ACTIVITIES

2.3.1 Construction Schedule and Sequencing

Construction of the Stagecoach Facilities would require approximately 18 months to complete. Construction activities would typically occur between 7 a.m. and 7 p.m. Monday through Saturday. However, construction activities may begin earlier than 7 a.m. to avoid

excessive heat; any extension of construction hours would be in accordance with County requirements.

In advance of construction, Aurora Solar would conduct geotechnical investigations for the Stagecoach Facilities to assess subsurface conditions and to inform detailed engineering design, including excavation depths.

Construction would proceed following receipt of all permits and agency approvals and would include the following activities, listed in approximate sequential order (some construction activities would occur simultaneously):

- Surveying, staking, and installation of erosion control measures
- Access road construction within the site
- Site grading
- Trenching and installation of underground electrical system in solar generation plant
- Assembling array foundations and installing solar arrays
- Constructing the substation, BESS, and O&M building
- Constructing the Stagecoach Gen-tie Line between the Stagecoach Solar Generation Plant and the SCE Calcite Facilities
- Testing and commissioning
- Restoring temporarily disturbed areas

The construction contractor would be required to incorporate best management practices (BMPs) consistent with guidelines provided in the *California Storm Water Best Management Practice Handbooks: Construction*, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP) and a Soil Erosion and Sedimentation Control Plan in order to reduce potential soil impacts related to construction of the Proposed Project.

2.3.2 Site Access

Access to the Stagecoach Solar Generation Plant would be from Lucerne Valley Cutoff, which runs diagonally through the solar field, separating it into two major segments. Vehicles from the north would reach the solar generation plant site via SR-247 south from Interstate 15 in Barstow to SR-247's intersection with Lucerne Valley Cutoff, approximately 21 miles south of Barstow. Vehicles traveling to the site from the south would reach the site primarily via Interstate 15 to SR-18 in Victorville, then east to where SR-18 intersects with SR-247 then north for approximately 11 miles on SR-247 to Lucerne Valley Cutoff. Worker access would be controlled through locked entrance gates on either side of Lucerne Valley Cutoff.

2.3.3 Stagecoach Solar Generation Plant Construction

The activities necessary to construct the Stagecoach Solar Generation Plant are described in the following sections.

2.3.3.1 Site Preparation, Earthwork, and Fencing

Construction activities would begin with site preparation, including installation of permanent fencing around the perimeter of the site, as described in Section 2.2.2.5. A SWPPP and a Soil Erosion and Sedimentation Control Plan will be prepared in order to reduce potential soil impacts related to construction. Sediment and erosion control measures as described in the SWPPP would be installed before major ground disturbing activities. Clearing and grubbing of the existing vegetation, or vegetation mowing, would also occur at the start of construction.

Conventional grading would be performed throughout the Proposed Project site but would be minimized to the maximum extent possible. The grading design takes into account the standard practice of balancing the cut and fill throughout the site. Earthworks scrapers, excavators, dozers, water trucks, paddlewheels, haul vehicles, and graders may all be used to perform grading. Land-leveling equipment, such as a smooth steel drum roller, would be used to even the surface of the ground and to compact the upper layer of soil to a value recommended by a geotechnical engineer for structural support. Grading activities may include placement and compaction of excess materials in low elevation areas of the site.

Gravel or aggregate base material would be imported to the site for construction of the site entrances off Lucerne Valley Cutoff as well as the access roads, substation, staging areas, and parking area associated with the O&M Building.

2.3.3.2 Construction Staging Areas

Onsite construction staging areas may be used within the fenced portion of the final project footprint. These areas would be cleared, graded, and graveled. After the completion of construction, areas used for staging would be reclaimed, with the exception of any area within the 5-acre O&M parcel.

2.3.3.3 On-site Access Roads

Bulldozers and motor-graders would typically be used to create roads and a water truck would be used for road compaction and dust control. Depending on the subsurface soil characteristics present on-site, soils may need to be excavated and replaced with gravel and/or sand to provide a stable road base. Roads would be constructed within the Stagecoach Solar Generation Plant to facilitate access to and between tracker arrays and inverters. Roads would be 16 feet wide and designed to prevent soil erosion and maintain existing surface water runoff patterns. Changes in topography due to array grading will be done in a manner to ensure the existing drainage areas and patterns are maintained. Small ditches around the proposed BESS, substation, and O&M facility would be installed to minimize risk to the structures. Additionally, permanent retention basins near the proposed facilities and throughout the array would be constructed to maintain existing

runoff rates and mitigate any increased risk of downstream flooding. During construction, typical BMPs, such as silt fence and erosion control blankets, would be implemented to manage erosion and control sediment runoff.

During construction, roads would be maintained to minimize fugitive dust and prevent erosion from rain events. Additional gravel or surface treatments on the dirt access roads may be required to meet operational dust control requirements.

2.3.3.4 Solar Array Assembly and Construction

After the site is prepared and graded to the extent required, installation of the panel field would begin with the installation of galvanized steel beams driven directly into the ground using a small pile driver. Soil tests would be required to validate the preliminary engineering and ensure that foundation systems meet geotechnical requirements for load stability. If tests conclude that additional foundation support is required, then the steel beams would be attached to concrete ballasts that sit on the ground surface. No welding would be required for assembly.

After the foundations are secure, trenches would be dug along the perimeter of the solar panel arrays to connect the inverter blocks with the substation (see description under Electrical Collection System, below). Next, the framing would be bolted to the support beams. Once framing is complete, panels would be installed on the frames.

2.3.3.5 Electrical Collection System

Installation of the electrical collection system would typically require excavation of an approximate 1- to 2-foot-wide by 4-foot-deep trench for underground electrical circuits. The overall length of these trenches within the solar generation plant site would be approximately 126,930 linear feet (24 miles). Base material would be laid in the trench to ensure adequate drainage, thermal conductivity, and electrical insulating characteristics below and above the collection system cables within the trenches. The topsoil from trench excavation would be set aside before the trench is backfilled and would ultimately comprise the uppermost layer of the trench. Power conditioning stations, which house the inverters, would require concrete foundations and may require drilled piles—pending final geotechnical analysis.

Direct current (DC) lines installed in the conduits would be collected and combined from the arrays and routed to the power conditioning stations to be converted to alternating current (AC). Within the arrays this wiring would typically be hung from the racking equipment. Final sections would enter the power conditioning stations and be connected to the inverters via an underground stub. Trenches for the collector lines would be run from the power conditioning stations to the collector side of the substation.

2.3.3.6 Project Substation

Grading would be necessary on the up to 5-acre substation site. Site grading would require the use of heavy equipment such as bulldozers in order to cut and fill native soil to the proposed pad elevation. Soil compression and other soil remediation measures may be needed pending final geotechnical study outcome.

Site preparation may also include construction of drainage components to capture and direct stormwater flow across the substation site. Foundation construction would begin once the site is cleared and graded. Foundations for substation structures typically would be excavated to depths of 10 feet—final depths dependent on final geotechnical report. Equipment including backhoes and drill rigs may be used to excavate foundations. Concrete is typically used to build the substation equipment foundations.

Once the substation pad has been established, installation of below ground facilities would include placement of the substation electrical grounding system and burial of conduits and ducts for cabling, followed by construction of the aboveground equipment. Construction would generally consist of installing electric transformers, breakers, switches, and other electrical equipment. Equipment installation would be accomplished by delivering equipment to the site on trucks and lifting it into place using cranes. The surface areas of the substation would be covered with gravel for safety, as well as to minimize surface runoff and erosion and for fire protection.

2.3.3.7 Battery Energy Storage System

In order to construct the BESS, up to 56 acres would be graded in order to cut and fill native soil to the proposed pad elevation; the storage facility foundation must be graded so it is level. Site preparation activities also would include construction of drainage components to capture and direct stormwater flow around the storage facility. Concrete foundation construction would begin once the site is cleared and graded.

Once the concrete foundations are in place for the BESS, the batteries, inverters, and other electrical equipment would be mounted and installed. Equipment would be delivered to the site on trucks.

2.3.3.8 Operations and Maintenance Building

Up to 5 acres would be graded for the O&M building, parking, and storage yard. The 5,000 square-foot O&M building concrete foundation typically would be excavated to a depth of about 3 feet. Individual components of a pre-engineered O&M structure, such as beams, siding, and roofing, would be transported to the site. During construction, a portion of the site would be used as a staging area. Once construction is complete, the balance of the area around the pre-engineered structure would be available for operational use, such as parking and storage.

2.3.3.9 Stagecoach Solar Generation Plant Site Restoration

Temporarily disturbed areas would be re-graded so that surfaces drain naturally, blend with the natural terrain, and are left in a condition that would facilitate re-vegetation or re-seeding, provide proper drainage, and prevent erosion. The Applicant would restore temporarily disturbed areas to their preconstruction conditions to the extent restoration does not interfere with solar energy production. Temporarily disturbed areas would be restored to their original contour and would be seeded with native plant species.

2.3.4 Stagecoach Gen-tie Line Construction

2.3.4.1 Stagecoach Gen-tie Line Access Roads

Access to the Stagecoach Gen-tie Line ROW and transmission structure sites would be needed during construction and for ongoing maintenance of the gen-tie. Existing paved and unpaved roads would be used to the extent practical to transport material and equipment to and from the locations within the ROW.

Existing roads would be improved as needed for use by construction equipment along the Stagecoach Gen-tie Line. Improving existing access roads would involve brush clearing, grading, erosion control, and installation of culverts or riprap to maintain stormwater flows within ephemeral wash areas. As needed, missing surface material would be replaced and the road would be graded and shaped. A motor grader is the primary equipment used to conduct this work, although bulldozers may be used in some areas as needed. Watering may be required to control dust and to retain fine surface rock.

A new two track road (up to 10 feet wide and up to 9.1 miles long) would parallel the Stagecoach Gen-tie Line except where the route parallels SR-247. It would be constructed using a bulldozer or grader, and a water truck and roller would compact and smooth the ground. Loaders and dump trucks may be used to move excess soil locally or off-site. Culverts or other drainage structures would be installed, if necessary, to move heavy equipment across drainages during construction and would be kept in place for operations. Dust and erosion control measures would be implemented along unpaved access routes and where the road surface sealants would be unsuitable for wildlife habitat.

2.3.4.2 Stagecoach Gen-tie Line Transmission Structure Site Preparation

Construction activities for gen-tie structure erection would be initiated with clearing vegetation as necessary at the transmission structure sites. Where grading is needed, topsoil would be removed and stockpiled for use in site restoration. Temporary topsoil stockpiles would be protected from wind and water erosion during construction.

Crews would then drill foundations for each transmission structure. Excavating transmission structure foundations is typically done with a backhoe, front-end loader, or pressure auger. Excavation to bedrock or other suitable base material would be required.

A rock drill may be used if rock is encountered during excavation. Concrete for use in constructing foundations would be dispensed from concrete mixer trucks. After the foundation concrete is placed, a mechanical tamp would be used to re-compact soil around the foundation.

2.3.4.3 Stagecoach Gen-tie Line Structure Assembly and Erection

Transmission structure components and hardware would be trucked to each structure site. Individual structures would be either framed on the ground (with crossarms, insulators, and line hardware installed), or these components would be installed after the transmission structure is erected. The structure would be hoisted into place by a crane and attached to the foundation.

2.3.4.4 Stagecoach Gen-tie Line Conductor Installation

Construction of the gen-tie line would require staging areas that could also be used as pull sites for conductor installation. The staging/pulling areas would be located within the Stagecoach Gen-tie Line ROW and, if temporary material storage is required, may be temporarily fenced for security. The extent of temporary disturbance areas would be minimized to the extent feasible, and there would be no blading at these sites if the terrain is sufficiently level.

Large reels of conductor would be transported to the staging areas or pulling sites on flatbed trucks. Other equipment required would include stringing trailers, tensioning machines, pullers, bulldozers, and several trucks including a bucket truck.

Temporary stringing sheaves or travelers (pulleys) would be attached on the cross-arms of each structure at the bottom of the insulator strings. A sock line (rope or lightweight wire) would then be strung between structures through the stringing sheaves. A pulling line would be attached to the end of the sock line and pulled back through the sheaves between pull site locations. The conductor would then be strung using the pulling line.

Powered pulling equipment would be used at one end and pull and tensioning equipment would be used at the other end to establish the proper tension and sag. Crews would then permanently “clip” conductors onto structure hardware to maintain the proper ground clearance for the conductors. After conductors are clipped in, the stringing sheaves would be removed and the conductor would be connected to the insulators hanging from the cross-arms. Ground wire would be installed at the top of the structures using a pulling technique similar to that used for the conductors.

2.3.4.5 Stagecoach Gen-tie Line Site Restoration

Temporarily disturbed areas would be re-graded so that surfaces drain naturally and blend with the natural terrain. The areas would be left in a condition that would facilitate re-vegetation or re-seeding, provide for proper drainage, and prevent erosion. As with

restoration of temporarily disturbed areas at the solar generation plant, the Applicant would restore all temporarily disturbed areas to their preconstruction condition. Temporarily disturbed areas would be restored to their original contour and would be seeded with native plant species.

2.3.4.6 Fiber Optic Line Construction

A fiber optic line would be installed from the substation (at the Stagecoach Solar Generation Plant) to the SCE Calcite Substation. The line would be installed underground within the Stagecoach Gen-tie Line ROW, except at the following three overhead segments at road crossings: at Greastwood Lane (just west of Lucerne Valley Cutoff), at No End Road (just east of Barstow Road), and at an unnamed road 0.8 miles northwest of the SCE Calcite Substation.

The underground cable would be installed using direct bury equipment or using ordinary trenching techniques, which typically include a rubber-tired backhoe excavator or trencher. Short segments may be bored using directional drilling in order to cross under roadways, avoid sensitive resources, and/or conflicts with existing underground utilities. The excavated soil would be used to fill the 4- to 6-inch trench and compressed to 90 to 95 percent maximum dry density or in accordance with final engineering.

2.3.5 Construction Workforce, Materials, and Management for the Stagecoach Facilities

2.3.5.1 Construction Workforce

Construction of the Stagecoach Facilities would require up to 400 workers per day during the peak construction period (12 months). During the peak of construction, a typical day at the site would include the transportation and installation of trackers, movement of heavy equipment, and transportation and installation of modules and other materials. Depending on the particular stage of construction, an average daily workforce of up to 175 workers would be present at the construction site.

2.3.5.2 Construction Vehicles and Equipment

The construction vehicles used on-site and the estimated truck trips are presented in Table 2-2, Construction Vehicles for the Stagecoach Facilities, and Table 2-3, Truck Deliveries for the Stagecoach Facilities.

Table 2-2. Construction Vehicles for the Stagecoach Facilities				
Equipment	**Vehicles per day**	**Duration of Use (hrs/day)**	**Duration (months)**	**Purpose**
Water truck	66	6	18	Dust Control
Front end loader	25	12	10	Material movement
Scrapers	15	12	6	Grading
Bulldozers	15	12	6	Grading
Graders	15	12	6	Grading
Hydraulic Ram	5	12	9	Foundation installation
Forklifts	20	8	16	Material staging
Backhoes	12	12	9	Excavation
Crane	4	10	9	Inverter placement
Tractor	4	12	9	Material staging
Pickup truck	30	6	18	Transportation
ATV	20	10	18	Transportation
Pile driver	8	12	9	Post installation
Trencher	8	12	6	Underground work (AC/DC/Fiber optic cables)
Small sheepsfoot	5	12	6	Compaction
Power screener	5	12	6	Soil processing
Cable plow	8	12	6	Underground cable installation

Table 2-3. Truck Deliveries for the Stagecoach Facilities				
Item	**Truck Deliveries**	**Vehicle Type**	**Axles**	**Duration (months)**
Modules	1,440 total	53’ Flatbed	5	6
Foundation posts	800 total	48’ Flatbed	5	6
Racking	800 total	48’ Flatbed	5	6
Cable	200 total	53’ Flatbed	5	3
Inverters	200 total	48’ Flatbed	5	3
Transformer	4 total	53’ Flatbed	5	0.25
Concrete	360 total	Concrete Mixer	3	9
Road base	2,800 total	Dump truck	3	4
Trash (haul off)	3,500 total	40-YD roll-off	3	18
Fencing	300 total	48’ Flatbed	5	4
Electrical equipment	100 total	48’ Flatbed	5	3

The Applicant would implement all appropriate and relevant traffic control measures, as necessary and in coordination with Caltrans and local authorities. A traffic control plan/strategy would be prepared by a licensed Traffic Engineer and approved by Caltrans, the County, the California Highway Patrol, and the CSLC prior to construction.

2.3.5.3 Construction Water Requirements and Sources

Water would be needed during construction for dust control. An estimated 258 acre-feet (AF) of water would be needed for dust suppression and earthwork over the approximately 18-month construction period.

Water for construction-related dust control would be obtained from one or more potential sources, including an on-site or off-site groundwater well or trucked in from an offsite water purveyor. The Applicant states that Golden State Water Company has indicated its ability to supply water for construction use.

2.3.5.4 Gravel, Aggregate, and Concrete Requirements and Sources

Gravel and aggregate as well as any fill material needed during construction would be sourced locally within a 120-mile radius, to the extent feasible. Concrete would be supplied by vendors using ready mix concrete trucks.

2.3.5.5 Construction Waste Management

The Stagecoach Facilities would produce a small amount of solid waste during construction. This may include paper, wood, glass, plastic packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. The waste would be segregated, where practical, for recycling. Non-recyclable waste would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Vegetation waste generated by site clearing and grubbing would be chipped/mulched and spread on site or hauled off-site to an appropriate green waste facility. Most waste generated during operations would be nonhazardous.

Portable toilets would be provided on-site during construction and sanitary waste would be disposed of in an approved off-site facility; domestic wastewater generated during construction would not be disposed of on-site.

2.3.5.6 Hazardous Materials

The hazardous materials used for construction would be typical of most construction projects of this type. These materials would include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, pesticides, herbicides, and welding materials/supplies. Information on hazardous material use would be recorded to maintain safety and prevent possible environmental

contamination or worker exposure. During Proposed Project construction, material safety data sheets for all applicable materials present at the site would be readily available to on-site personnel.

Small quantities of hazardous waste would most likely be generated over the course of construction. These wastes may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to properly identify and handle all hazardous waste. Hazardous waste would be either recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler.

Storage, handling, and use of all chemicals would be conducted in accordance with applicable laws, ordinances, regulations, and standards. Chemicals would be stored in appropriate facilities. Bulk chemicals would be stored in storage tanks, and other chemicals would be stored in returnable delivery containers. Chemical storage and chemical feed areas would be designed to contain potential leaks and spills.

2.4 STAGECOACH FACILITIES OPERATION AND MAINTENANCE ACTIVITIES

Once constructed, the Stagecoach Facilities would operate during daylight, seven days per week, 365 days per year in accordance with approved procedures to comply with the issued environmental permits and appropriate governmental laws. In some cases, routine preventative maintenance or corrective maintenance tasks will need to be performed during evening as to not impact generation during daylight hours. The operating life of the Stagecoach Facilities is anticipated to be 40 years.

Maintenance of the Stagecoach Facilities would consist of:

- Routine Preventive Maintenance – normally conducted by the plant O&M staff, supported by outside contractors or third-party services
- Corrective Maintenance – normally conducted by the plant O&M staff supported as necessary by outside contractors, as required, due to special equipment or expertise, that is not cost-effective to maintain on-site (e.g., welding) or to augment efforts to return the facility to operation as soon as possible following a forced or unscheduled outage

Scheduled maintenance periods would be planned and coordinated with SCE, which operates and maintains the local grid network. The need for unscheduled corrective maintenance would be determined on a case-by-case basis.

Routine maintenance of the Stagecoach Facilities would include panel washing to optimize solar generation. In-place panel washing may be conducted every 6 to 8 weeks by mobile crews, who also would be available for dispatch whenever onsite repairs or other

maintenance are required. Panel washing would require using a tanker truck and smaller "satellite" panel washing trucks. Onsite water storage tanks may be installed to facilitate washing and to support fire suppression. Each panel washing truck would carry water treatment equipment and truck-mounted panel washing booms or module cleaning robotics.

The underground cable system would be inspected, maintained, and repaired as necessary. Overhead components would be inspected, at a minimum, for corrosion, equipment misalignment, loose fittings, and other mechanical problems.

During operations, O&M staff may visit the substation several times a week for switching and other operations activities. On a regular basis, construction and maintenance trucks would visit the substation to perform routine maintenance including but not limited to equipment testing, monitoring, and repair; routine procedures to ensure service continuity; and standard preventative maintenance.

Once deployed, the BESS would be monitored remotely to ensure required functionality is met. All battery system functions would likely operate autonomously, with infrequent manual input needed to maximize performance or resolve unforeseen issues. Similar to the other electrical equipment, routine maintenance may be required, including but not limited to equipment testing, repair, and replacement; routine service; and standard preventative maintenance.

2.4.1 Vegetation Treatment

The Stagecoach Solar Generation Plant O&M staff would address the removal of noxious weeds and vegetation across the site through targeted spraying, occasional scarifying, or weeding to reduce fire hazards.

2.4.2 Operational Workforce and Equipment

The O&M building would require up to 10 employees. Employees may include a plant manager, engineers, technicians, and security staff. The Stagecoach Facilities would be monitored during operating (daylight) hours, even though the Stagecoach Facilities would be capable of automatic start up, shutdown, self-diagnosis, and fault detection. Security lighting would be installed at the O&M building. The site would be secured 24 hours per day by remote security services with motion-detection cameras.

2.4.3 Operational Water Requirements and Sources

During operations, water would be used for panel washing and fire suppression, and potable water would be available at the O&M building. Water would be provided by groundwater wells or from a water tank filled with water transported from off-site. Water requirements for the Stagecoach Facilities during operation are 725 gallons per day or 0.6 acre-feet per year.

Wastewater generated at the restroom facilities would be disposed of through an onsite septic system, which would require development of a leach field. The leach field would be located in the vicinity of the 5-acre O&M parcel, with the exact size to be defined during detailed design and based on soil conditions. It is assumed that about half of the O&M area underground will be used for the leach field. The capacity of this system would be as much as 130,500 gallons per year.

2.4.4 Fire Safety During Operation

Solar arrays and PV modules are fire-resistant, as they are made up largely of steel, glass, aluminum, or components housed within steel enclosures. The panels are constructed from glass and aluminum; therefore, PV modules are not vulnerable to ignition from firebrands from wildland fires. In a wildfire situation, the panels would be rotated and stowed in a panel-up position. The rotation of the tracker rows would be controlled remotely via a wireless local area network. All trackers could be rotated simultaneously in a hazard situation. Fire safety and suppression measures, such as smoke detectors and fire extinguishers, would be installed and available at the O&M facility per the San Bernardino County Building and Safety Department's requirements.

As described in Section 2.2.5, *Fire Safety*, a Fire Management and Prevention Plan would be prepared in coordination with the San Bernardino County Fire Department or other emergency response organizations to identify fire hazards and response scenarios that may be involved with operating the Stagecoach Solar Generation Plant. This would include information on response to accidents involving downed power lines or accidents involving damage to solar arrays and facilities.

2.5 STAGECOACH FACILITIES CLOSURE, DECOMMISSIONING, RECLAMATION, AND RESTORATION

If, at the end of the CSLC lease and/or contract term to sell energy to the utility buyer, no contract extension is available or no buyer of the energy emerges, the Stagecoach Facilities would be decommissioned and dismantled.

After removal of all on-site improvements, remediation and restoration of the area would be performed to return the site to its pre-construction condition, to the extent feasible. This includes planting native plants and re-seeding with an appropriate native grass seed mix as needed.

2.5.1 PV Equipment Removal and Recycling

The PV modules typically come with a 25-year manufacturer's warranty and have a useful life of 30 to 40 years. Decommissioning would first involve removing the panels for sale into a secondary solar PV panel market. It is expected that a robust market for used solar PV modules would exist in the future because the modules can be used in various configurations and at various scales. The Proposed Project would use PV modules with

component materials that are free of toxic metals such as mercury, lead, cadmium telluride, or gallium, and the majority of the components of the solar installation would be made of materials that can be readily reused or recycled. If the panels can no longer be used in a solar array, the aluminum can be resold, and the glass can be recycled. Other components of the solar installation, such as the tracker structures and mechanical assemblies are made of galvanized steel and can be recycled.

2.5.2 Electrical Collection System

Equipment such as drive controllers, inverters, transformers, and switchgear can be either reused or their components recycled. The concrete equipment pads can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches, removing the conduit, and backfilling, or the conduit can be abandoned in place to minimize ground disturbance. The electrical wiring is copper and/or aluminum and can be reused or recycled as well.

2.5.3 Substation

At decommissioning, the prefabricated control house and electronic components of the substation would be electrically disconnected and made safe for removal. The control house would be disassembled and removed from the site. The transformers, breakers, support structures, and metal dead-end transmission structures would be disassembled and removed. Concrete foundations and containment berms/curbs for the transformers would be broken up to a minimum of 12 inches below grade, and all debris and aggregate rock would be removed from the site.

Transformers using insulating oils would be removed from the site and recycled or disposed of at an appropriately licensed disposal facility. Site personnel involved in handling these materials would be appropriately trained.

2.5.4 Battery Energy Storage System

The batteries used in the BESS would be recycled and disposed of according to their specific chemistry and recycling requirements. This could include a battery manufacturing facility or a specialty recycling plant that can accommodate the specific battery types. Any hazardous substances would be disposed of in accordance with regulatory requirements. Additional equipment associated with energy storage would be decommissioned and disposed of in a similar manner as other electrical and mechanical components used at the Stagecoach Facilities.

2.5.5 Operations and Maintenance Building

If the O&M building is determined to be no longer useful, it would be decommissioned. The O&M building would be dismantled and recycled, the concrete dismantled to a minimum of 36 inches below grade (unless otherwise required by the CSLC); and the foundation and

parking area would be broken up and removed from the site to an appropriately licensed disposal facility. The water storage tank, pumps, and related equipment would be removed and recycled to the extent practical.

2.5.6 Gen-tie Line

Decommissioning of the Stagecoach Gen-tie Line would consist of removal of the overhead conductors and removal of poles. All steel would be recycled, and the foundations removed to a depth of at least 2 feet below the ground surface (unless otherwise required by the CSLC). Aluminum from overhead conductors would be recycled.

2.5.7 Roads

Roads may be left in place if the landowner deems that to be of value. Alternatively, all roads could be restored to preconstruction conditions, which would involve removal of any aggregate, geotextiles, and stormwater management facilities.

2.6 SCE CALCITE FACILITIES

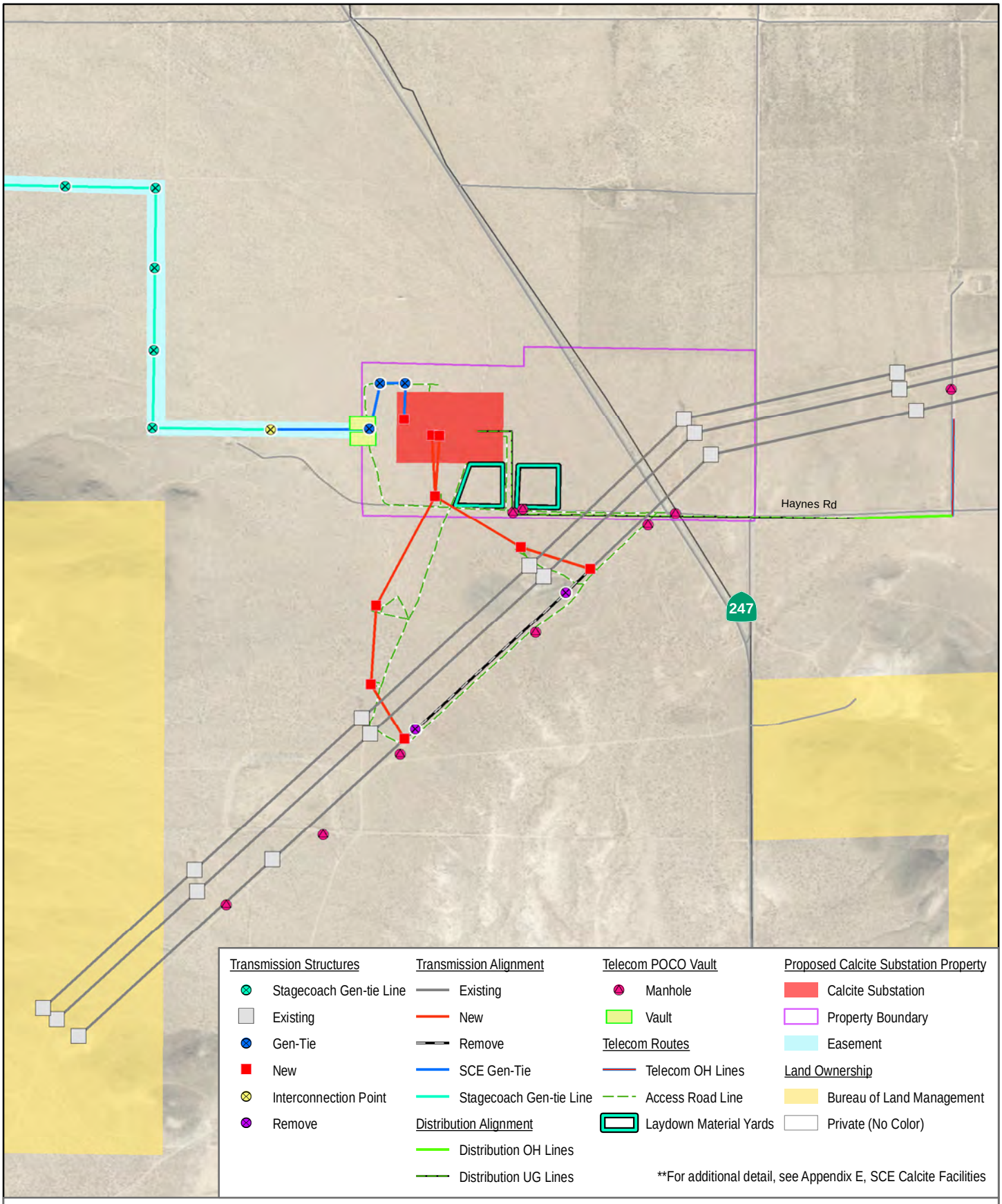
The SCE Calcite Facilities description is summarized from Appendix E, Calcite Substation Detailed Project Description. Southern California Edison Company (SCE) proposes to construct the SCE Calcite Substation and associated facilities to interconnect the Aurora Solar, LLC 200 MW Stagecoach Facilities to SCE's existing Lugo-Pisgah No. 1 220 kV Transmission Line.

2.6.1 Description of SCE Calcite Facilities Components

The SCE Calcite Facilities would be designed, constructed, owned, operated, and maintained by SCE and fall under the permitting jurisdiction of the California Public Utilities Commission (CPUC). Among other authorizations and approvals, it would require a discretionary Permit to Construct from the CPUC. Because this substation is needed to deliver electricity from the solar generation plant, construction and operation of the proposed SCE Calcite Substation and the associated interconnection facilities are considered part of the Proposed Project for purposes of environmental review in this EIR.

The SCE Calcite Facilities would be located on and adjacent to an approximately 75-acre parcel that extends on the west and east sides of SR-247, directly north of Haynes Road, in San Bernardino County (Figure 2-8, SCE Calcite Facilities). The main components of the proposed SCE Calcite Facilities (SCE 2021) are:

- **SCE Calcite Substation.** A 220 kV switchyard on approximately 7 acres along with approximately 4 additional acres for drainage, grading, and an access road.



Source: SCE, 2021.

Figure 2-8.

SCE Calcite Facilities

- **Transmission Lines.** Loop-in the Lugo-Pisgah No. 1 220 kV transmission line into SCE Calcite Substation adding a total of approximately 5,000 feet of new transmission line (two lines of approximately 2,500 feet located adjacent to one another) creating the Calcite-Lugo and Calcite-Pisgah 220 kV transmission lines.
- **Generation Intertie Line Connection.** Connect the Stagecoach Gen-tie Line into the SCE-owned SCE Calcite Substation. SCE will construct up to three structures and four spans, starting at the generator's closest structure to the SCE Calcite Substation property to connect to the new position within the switchyard.
- **Distribution Line.** Approximately 700 feet of 12 kV overhead distribution line and approximately 3,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to SCE Calcite Substation) to provide temporary power for construction and permanent substation light and power.
- **Telecommunications Facilities.** Fiber optic communication cables, equipment, and associated structures for diverse path routing of communications. The telecommunication facilities would include a Remedial Action Scheme, which is a protective system providing rapid automated response to outages and unplanned system events (described in more detail in Appendix E, Section 7).

SCE would engineer, design, construct, and test the proposed SCE Calcite Facilities. The substation would be designed to accommodate a total of eight 220 kV positions, with four positions initially constructed. Three positions would be utilized in the initial design: one position for the Stagecoach Gen-tie Line, one position for the Pisgah 220 kV transmission line, and one position for the Lugo 220 kV transmission line. The remaining position would be available for future network or gen-tie lines.

The SCE Calcite Substation would be initially equipped with:

- Two overhead 220 kV buses
- Six circuit breakers
- Twelve group-operated disconnect switches
- One mechanical electrical equipment room
- Light and power transformers and associated equipment
- Station lighting
- Permanent wall with two gates and a loop of top guard along the top
- Perimeter Security Intrusion Detection System

Section 2.6.2 describes construction of the substation itself, and Section 2.6.3 describes the construction of the other facilities that would serve the substation (transmission and distribution lines, and telecommunications).

2.6.2 Construction of SCE Calcite Substation

Following is a description of SCE's construction activities for the SCE Calcite Substation (SCE 2021).

2.6.2.1 Site Preparation, Grading, and Fencing

The proposed SCE Calcite Substation property would be prepared by clearing existing vegetation and installing a temporary chain-link fence to surround the construction site. The property would be graded in accordance with County-approved grading plans. The area to be enclosed by the proposed substation perimeter wall would be graded to a slope that varies between 1 and 2 percent. To protect the substation from flooding, and to keep the existing drainage patterns, drainage conveyances would be constructed around the substation.

These features would disturb an area approximately 35 feet wide around the substation (approximately 2 acres) resulting in a total permanent disturbance area of approximately 11 acres. Final site grading and drainage would be subject to the conditions of the grading permit obtained from the County of San Bernardino (see Table 2-4).

Table 2-4. SCE Calcite Substation Ground Surface Improvement Materials and Estimated Volumes

Element	Material	Approximate Surface Area (sq. ft.)	Approximate Volume (cu. yd.)
Site Fill (import)	Soil	420,000	51,000
Waste Removal (export)	Soil/Vegetation	420,000	3,000
Replacement Fill (import)	Soil	420,000	4,000
Substation Equipment Foundations	Concrete	4,900	850
Equipment and Cable Trench Excavations[1]	Soil	270,000	1,200
Cable Trenches[2]	Concrete	6,300	25
Internal Driveway[3]	Asphalt Concrete Class II Aggregate Base	48,000 48,000	600 900
Access Road[4]	Asphalt Concrete Class II Aggregate Base Concrete	51,000 51,000 51,000	900 1,000 100

Table 2-4. SCE Calcite Substation Ground Surface Improvement Materials and Estimated Volumes			
Element	**Material**	**Approximate Surface Area (sq. ft.)**	**Approximate Volume (cu. yd.)**
Substation Rock Surfacing	Rock, Nominal 1 to 1-1/2 Inch per SCE Standard	250,000	3,200

[1] Excavation "spoils" would be placed on site during the below-ground construction phase and used to the extent possible for the required on-site grading.
[2] Standard cable trench elements are factory fabricated, delivered to the property, and installed by crane. Intersections are cast-in-place concrete.
[3] Internal Driveway refers to all paved roads within the substation walls.
[4] Access Road refers to the paved road from the public right-of-way to the primary entrance gate and secondary access.

Additional temporary land disturbance (up to approximately 4 acres) within the proposed SCE Calcite Substation Property may be necessary for temporary equipment storage and material staging areas. An additional 3 acres would be temporarily disturbed due to construction grading (see Table 2-5). Table 2-5 provides the approximate area of land disturbance at the SCE Calcite Substation Property. This includes the area immediately outside the substation, as well as the approximate volume and type of earth materials proposed to be used or disposed.

Table 2-5. Land Disturbance for SCE Calcite Substation Construction					
Project Feature	**Project Quantity**	**Disturbed Acreage Calculation**	**Construction Disturbance Acreage**	**Temporary Disturbance Acreage**	**Permanent Disturbance Acreage**
SCE Calcite Substation	1	620 ft. x 480 ft.	10.0	3.0	7.0
Drainage and Grading	1	Varies	2.0	0.0	2.0
New Access Roads	1	Linear Miles x 24 ft. wide	2.0	0.0	2.0
Material & Equipment Staging Yard	1	Approx. 2 acres	2.0	2.0	0.0
Total Estimated Disturbance Acreage			**16.0**	**5.0**	**11.0**

2.6.2.2 Construction Staging Areas

Construction of the SCE Calcite Facilities, including the substation, transmission lines, distribution lines, and telecommunication lines, would require the establishment of approximately 4 acres of staging yards within the SCE Calcite Substation property. Preparation of the staging yards would include temporary perimeter fencing and depending

on existing ground conditions at the property, include the application of gravel or crushed rock.

The majority of the materials associated with construction efforts would be delivered by truck to the staging yard, although some materials may be delivered directly to the temporary construction laydown/work areas.

2.6.2.3 Access Roads

The SCE Calcite Substation access road would be 24 feet wide and composed of asphalt concrete. This road would connect to SR-247 (Barstow Road) and would require the improvement of approximately 1,100 feet of the existing Haynes Road and the establishment of approximately 800 feet of new road.

2.6.2.4 Below Grade Construction

After the SCE Calcite Substation property is graded, below grade facilities would be installed. Below grade facilities include a ground grid, underground conduit, trenches, and all required foundations. The design of the ground grid would be based on soil resistivity measurements collected during a geotechnical investigation that would be conducted prior to construction.

2.6.2.5 Equipment Installation

Above grade installation of substation facilities (i.e., buses, circuit breakers, steel structures, and the MEER) would commence after the below grade structures are in place.

2.6.2.6 Site Restoration

Any damage to existing roads resulting from construction would be repaired once construction is completed in accordance with local agency requirements. Following completion of construction activities, SCE would also restore all areas that were temporarily disturbed by construction of the SCE Calcite Substation to as close to preconstruction conditions as possible or where applicable to the conditions agreed upon between the landowner and SCE. In addition, all construction materials and debris would be removed from the area and recycled or properly disposed of off-site. SCE would conduct a final inspection to ensure that cleanup activities were successfully completed.

Any land that may be disturbed at the staging yard would be restored to preconstruction conditions if there is no longer a need for the staging yard.

2.6.2.7 Construction Workforce

Construction would be performed by either SCE construction crews or its contractors. Contractor construction personnel would be managed by SCE construction management personnel. SCE anticipates a total of approximately 30 construction personnel working on

any given day. SCE anticipates that crews would work concurrently whenever possible; however, the estimated deployment and number of crew members would be dependent upon County permitting, material availability, and construction scheduling. For example, installation of electrical equipment (such as the mechanical electrical equipment room, wiring, and circuit breaker) may occur while transmission line construction proceeds. The estimated elements, materials, number of personnel, and equipment required for construction of the SCE Calcite Facilities are summarized below in Table 2-6.

Table 2-6. SCE Calcite Facilities Construction Equipment and Workforce Estimates by Activity: Construct 220 kV Substation & Access Road

Primary Equipment Description	Work Activity			Activity Estimates		
	Estimated Horsepower	Probable Fuel Type	Primary Equipment Quantity	Estimated Crew Workforce	Estimated Schedule (Days)	Estimated Usage (Hrs/Day)
Survey						
1-Ton Truck, 4x4	300	Gas	2		10	8
Activity Estimate Totals				4	4	
Grading						
1-Ton Truck, 4x4	300	Gas	1		40	8
Dozer	350	Diesel	1		40	7
Loader	350	Diesel	2		40	7
Scraper	350	Diesel	2		40	7
Grader	350	Diesel	1		40	7
Dump Truck	350	Diesel	2		40	7
Backhoe	200	Diesel	2		40	7
Tamper	350	Diesel	1		35	7
Tool Truck	300	Gas	1		40	7
Utility Cart	50	Diesel	2		40	7
Water Truck	300	Diesel	3		40	8
Activity Estimate Totals				10	40	
Fencing						
1-Ton Truck, 4x4	300	Gas	1		25	8
Bobcat	200	Diesel	1		25	8
Flatbed Truck	300	Gas	1		15	3
Utility Cart	50	Diesel	1		25	7
Water Truck	300	Diesel	1		25	8
Activity Estimate Totals				5	25	

Table 2-6. SCE Calcite Facilities Construction Equipment and Workforce Estimates by Activity: Construct 220 kV Substation & Access Road

Primary Equipment Description	Work Activity			Activity Estimates		
	Estimated Horsepower	Probable Fuel Type	Primary Equipment Quantity	Estimated Crew Workforce	Estimated Schedule (Days)	Estimated Usage (Hrs/Day)
Civil						
1-Ton Truck, 4x4	300	Gas	1		60	8
Excavator	60	Diesel	1		45	4
Lo-Drill/Auger	350	Diesel	1		30	4
Backhoe	200	Diesel	2		60	7
Bobcat	200	Diesel	1		60	8
Dump Truck	350	Diesel	2		50	7
Skip Loader	350	Diesel	1		60	8
Forklift	200	Diesel	1		45	4
Concrete Truck	300	Diesel	2		30	4
Generator	50	Gas			60	7
Tool Truck	300	Gas	1		60	7
Utility Cart	50	Diesel	2		60	7
Water Truck	300	Diesel	2		60	8
Activity Estimate Totals				10	60	
MEER Install (Drop In)						
1-Ton Truck, 4x4	300	Gas	1		25	8
Manlift/Bucket Truck	150	Diesel	2		20	7
Stake Truck	350	Gas	1		20	3
Crane	350	Diesel	1		15	4
Forklift	250	Diesel	1		25	4
Tool Truck	300	Gas	1		25	7
Activity Estimate Totals				7	25	
Electrical						
1-Ton Truck, 4x4	300	Gas	2		3	8
Scissor Lift	60	Diesel	1		70	7
Manlift/Bucket Truck	150	Diesel	2		60	7
Reach Manlift	250	Diesel	1		45	7
Crane	400	Diesel	1		20	4
Forklift	250	Diesel	1		70	4
Generator	50	Gas	1		70	7

Table 2-6. SCE Calcite Facilities Construction Equipment and Workforce Estimates by Activity: Construct 220 kV Substation & Access Road

Primary Equipment Description	Work Activity			Activity Estimates		
	Estimated Horsepower	Probable Fuel Type	Primary Equipment Quantity	Estimated Crew Workforce	Estimated Schedule (Days)	Estimated Usage (Hrs/Day)
Utility Cart	50	Diesel	2		70	7
Tool Truck	300	Gas	1		70	7
Activity Estimate Totals				10	70	
Wiring						
1-Ton Truck, 4x4	300	Gas	1		65	8
Manlift/Bucket Truck	150	Diesel	1		25	4
Utility Cart	50	Diesel	1		65	7
Activity Estimate Totals				4	65	
Maintenance Crew						
1-Ton Truck, 4x4	300	Gas	1		30	8
Activity Estimate Totals				2	30	
Testing						
Test Truck	300	Gas	2		60	8
Activity Estimate Totals				4	60	
Asphalt						
1-Ton Truck, 4x4	300	Gas	2		40	4
Stake Truck	350	Gas	1		30	4
Dump Truck	350	Diesel	1		35	7
Asphalt Paver	350	Diesel	1		35	7
Tractor	350	Diesel	1		40	4
Paving Roller	150	Diesel	2		40	6
Asphalt Curb Machine	50	Diesel	1		30	4
Utility Cart	50	Diesel	1		40	7
Activity Estimate Totals				6	40	

2.6.2.8 Construction Water Requirements for SCE Calcite Facilities

During construction of the SCE Calcite Facilities, water trucks may be used to import water to minimize the quantity of airborne dust created by construction activities. Table 2-7 defines water requirements for construction of the SCE Calcite Facilities. Additional detail on water demand is provided in Appendix E.

Table 2-7. Total Water Demand for SCE Calcite Facilities Construction		
Disturbance Source*	**Duration (days)**	**Task Demand (acre-feet)**
SCE Calcite Substation	425	20.13
Transmission Loop-in and SCE Portion of Gen-tie Construction	81	2.88
Distribution System for Station Light and Power to SCE Calcite Substation	96	0.21
Telecommunication Fiber Optic Cable	38	0.15
Telecommunication Gen-tie	30	0.01
Material & Equipment Staging/Laydown Yards	30	0.29
Fill Compaction		6.54
Hydroseeding		0.50
Total Water Demand for 59.7 acres (total disturbed area)		***30.7***

2.6.2.9 Construction Waste Management

Construction of the SCE Calcite Facilities would result in the generation of various waste materials including soil, vegetation, and sanitation waste from portable toilets. All construction materials and debris would be removed from the area and recycled or properly disposed of off-site. Soil excavated for the SCE Calcite Facilities would either be used as fill or disposed of off-site at an appropriately licensed waste facility. Sanitation waste (i.e., human generated waste) would be disposed of according to sanitation waste management practices.

2.6.2.10 Hazardous Materials Management

Construction and operation of the SCE Calcite Facilities would require the limited use of hazardous materials such as fuels, lubricants, and cleaning solvents. SCE would comply with all applicable laws relating to hazardous materials use, storage, and disposal. A SWPPP would also be prepared for the SCE Calcite Facilities.

2.6.3 Construction of Other SCE Facilities

2.6.3.1 Transmission Lines and Related Structures

SCE's 220 kV transmission line requirements for the Proposed Project interconnection to SCE Calcite Substation and the Lugo-Pisgah No. 1 220 kV Transmission Line connection to SCE Calcite Substation include both loop-in lines (to connect the new substation with the existing Lugo-Pisgah 220 kV line) and a connection with the Stagecoach Gen-tie Line. The construction process for both types of new 220 kV structures is described below.

Construction of New 220 kV Structures. The new structure pad locations and laydown/work areas would first be graded and/or cleared of vegetation as required to provide a reasonably level and vegetation-free surface for structure installation. Property would be graded such that water would run toward the direction of the natural drainage. In addition, drainage would be designed to prevent ponding and erosive water flows that could cause damage to the structure footings. The graded area would be compacted to at least 90 percent relative density and would be capable of supporting heavy vehicular traffic.

Structure foundations would be engineered to satisfy the soil/rock profile at each location as needed based on geotechnical surveys and final engineering results. Typical structure foundations for each Tubular Steel Pole (TSP) would consist of one poured-in-place concrete footing, and TSP H-Frames would require two drilled poured-in-place concrete footings. Actual footing diameters and depths for each of the structure foundations would depend on the soil conditions and topography at each property and would be determined based on geotechnical investigation and final engineering design

The foundation installation process begins with the drilling of the holes for each type of structure. The holes would be drilled using truck- or track-mounted excavators with various diameter augers to match the diameter requirements of the structure type. The excavated material would be distributed at the structure site, used as fill for new roads or substation property, or used in the rehabilitation of existing access roads. Alternatively, the excavated soil may be disposed of at an off-site disposal facility in accordance with all applicable laws.

Following excavation of foundation footings, steel reinforced rebar cages would be set, survey positioning of anchor bolts and/or stub angles would be verified, and concrete would then be poured. The steel reinforced rebar cages would be assembled off-site and delivered to the structure location by flatbed truck. A typical transmission structure foundation would require approximately 50 to 150 cubic yards of concrete delivered to the structure location depending upon the type of structure being constructed, and each footing would project approximately 1 to 4 feet above the ground level. During construction, existing concrete supply facilities would be used where feasible.

Tubular steel poles and H-frames consist of multiple sections. The pole sections would be placed in temporary laydown areas at each pole location. Structure assembly begins with the hauling of steel pole sections from a staging yard to each structure location. This activity involves the use of trucks with trailers and a rough terrain crane. After the steel pole sections are delivered and placed within the structure laydown/work area, crews would proceed with the assembly of the structure. A crane would be used to set each steel pole base section on top of the previously prepared foundations. When the base section is secured, the remaining sections of the structures would be lifted into place with a crane and secured by an erection crew.

After construction is completed, the transmission structure site would be graded so that water would run toward the direction of the natural drainage. In addition, drainage would be designed to prevent ponding and erosive water flows that could damage the structure footing. The graded area would be compacted and capable of supporting heavy vehicular traffic.

Wire Stringing of 220 kV Conductor. To ensure the safety of workers and the public, safety devices such as traveling grounds, guard structures, radio-equipped public safety roving vehicles, and linemen would be in place prior to the initiation of wire stringing activities. Advanced planning is required to determine circuit outages, pulling times, and safety protocols to ensure safe installation of the wire. Wire stringing includes all activities associated with the installation of the primary conductors onto transmission line structures. These activities include the installation of conductor, ground wire, insulators, stringing sheaves (rollers or travelers), vibration dampeners, weights, suspension, and dead-end hardware assemblies for the entire length of the route.

The following five steps are used in typical wire stringing activities (see additional detail in Appendix E):

- Planning
- Sock Line Threading
- Conductor Pulling
- Splicing, Sagging, and Dead-Ending
- Clipping-In of Conductor

The puller, tensioner, and splicing set-up locations associated with the SCE Calcite Substation Project's transmission facilities would be temporary, and the land would be restored to its previous condition following completion of pulling and splicing activities. Wire pulls are the length of any given continuous wire installation process between two selected points along the line.

Appendix E, Table SCE-4 presents details on land disturbance for transmission line loop-in and gen-tie line interconnection.

Transmission Line Access Roads and Spur Roads. The new facilities serving the SCE Calcite Substation Project would require construction within existing and new ROW. Existing public roads as well as existing transmission line roads would be used as much as possible during construction. However, the SCE Calcite Substation Project would require new transmission line roads to access the new 220 kV transmission line segments and structure locations between the SCE Calcite Substation and existing SCE ROW.

Transmission line roads are classified into two groups: access roads and spur roads. Access roads are through roads that run between tower sites and serve as the main

transportation route. Spur roads are roads that lead from access roads and terminate at one or more structure sites.

Rehabilitation work may be necessary in some locations along the existing transmission line roads to accommodate construction activities. This work may involve the re-grading and repair of existing access and spur roads, including work such as: clearing of vegetation; grading to remove potholes, ruts, and other surface irregularities; widening of the drivable surface of the road; improving drainage across access roads; and over-excavation and re-compaction to provide a smooth and dense riding surface capable of supporting heavy construction equipment.

New access road alignments would first be cleared and grubbed of vegetation. Roads would be blade-graded to remove potholes, ruts, and other surface irregularities; fill material would be deposited where necessary; and roads would be re-compacted to provide a smooth and dense riding surface capable of supporting heavy construction equipment. The graded road would have a minimum drivable width that will vary between 14 feet and 22 feet with 2 feet of shoulder on each side as required by the existing land terrain but may be wider depending on final engineering requirements and field conditions. The minimum center line turning radius required along a curve is 50 feet (the minimum turning radius required to meet construction and maintenance vehicle requirements) and where typical berm and swale drainage improvements are required for erosion control along the road.

2.6.3.2 Distribution Line for Substation Service

Approximately 700 feet of 12 kV overhead distribution line and approximately 3,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to the SCE Calcite Substation) would be installed to provide temporary power for construction and permanent substation light and power.

Construction of the distribution system would include the following steps, as described in detail in Appendix E (Section 6):

- Overhead construction components would be shipped by truck to the staging yard and then trucked to the individual sites. Poles and associated equipment would then be erected along the required routes.
- Wire stringing includes all activities associated with installation of the distribution circuit conductors onto the distribution poles. At some wire stringing locations, vegetation may be removed and/or trimmed to accommodate the wiring stringing process.
- For the locations that require the construction of a trench to install an underground structure, excavation activities would generally be done using a backhoe. The anticipated dimensions for each trench would be approximately 24 inches wide by approximately 51 inches deep.

- Underground structure excavation would typically be a maximum of 3 feet greater than the structure's width and length dimensions, as well as a maximum of 4 feet deeper than the structure's height. The backhoe would be used to place the excavated soil into a dump truck to haul away. The area of disturbance would be approximately 30 feet on either side of trench and on all sides of the underground structures. The conduits would then be encased in concrete with a minimum encasement of 3 inches on all sides.

2.6.3.3 Telecommunications Facilities

Fiber optic communication cables, equipment, and associated structures for diverse path routing of communications would be installed. The telecommunication facilities would include a Remedial Action Scheme, which is a protective system providing rapid automated response to outages and unplanned system events (described in more detail in Appendix E, Section 7).

The SCE telecommunication facilities expected to be constructed as part of the SCE Calcite Substation Project would include two approximately 1-mile long fiber optic cables to the nearest splice points on an optical ground wire (OPGW) that is expected to already be in place on the 500 kV Lugo-Mohave line by the time any work associated with the SCE Calcite Substation Project commences.

Portions of the fiber optic cable would be constructed on existing overhead distribution and transmission wood and light duty steel poles. Other portions of the cable would be constructed on new overhead structures and newly constructed underground conduit system(s), subject to determination through final engineering. Exact details would be determined following completion of preliminary and final engineering, identification of field conditions, availability of labor, material, and equipment, and compliance with applicable environmental and permitting requirements. The cable crew would use existing roads or previously established roads to proceed with the function of cable installation when possible.

The overhead fiber optic cable SCE installs is known as an All Dielectric Self-supporting Fiber Optic Cable (ADSS). Usually, this cable is installed with the use of a bucket truck. A crew can install up to 1,000 feet of cable in one day.

ADSS stringing includes the installation of cross arms, suspension and dead-end hardware assemblies, vibration dampeners, and stringing sheaves. A distribution line pole would be replaced if the pole does not meet wind load specifications. Inter-set poles may be added to spans where needed to achieve required ground clearance for the fiber optic cable.

For the installation of the fiber optic cable in existing and new underground conduit, a high-density polyethylene smooth wall innerduct would be used. Innerduct facilitates the installation of the fiber optic cable, provides protection, and helps identify the cable. The innerduct is installed first inside the conduit between underground vaults, which are the

locations that sections of cable are spliced together. The fiber optic cable is then installed inside the innerduct. An approximate 30-foot by 40-foot work area is required at each vault to install the underground cable. A coil of 100 feet of cable is left on each cable end in the vault for splicing.

For splicing fiber optic cables, the crew would bring the fiber optic cable ends into the vaults and splice together the fibers from the two cables.

2.6.3.4 Construction Site Cleanup

SCE would restore all areas that are temporarily disturbed by Proposed Project activities (including the staging yard, pull and tension sites, and structure laydown and assembly sites) to preconstruction conditions following the completion of construction, in accordance with a restoration and revegetation plan. Any damage to existing roads as a result of construction would be repaired once construction is complete.

Restoration may include grading and restoration of sites to original contours and reseeding with native plants where appropriate. In addition, all construction materials and debris would be removed from the area and recycled or properly disposed of at an off-site disposal facility in accordance with all applicable laws. SCE would conduct a final inspection to ensure that cleanup activities are successfully completed.

2.6.4 SCE Calcite Facilities Operations and Maintenance

The proposed SCE Calcite Substation would be unstaffed, and electrical equipment within the substation would be remotely monitored and controlled by an automated system from SCE's Lugo Substation Switching Center (located at the Lugo Substation in Hesperia, about 30 miles southwest of the proposed SCE Calcite Substation). SCE personnel would visit a substation on an as-needed basis for electrical switching and routine maintenance purposes. Routine maintenance would include equipment testing, monitoring, and repair.

Because the SCE Calcite Facilities also include 220 kV transmission structures and conductors for interconnection with the existing SCE line, O&M activities also include transmission line work. This is necessary to ensure reliable service, as well as to verify the condition of the facilities and ensure that no facility degradation would affect the safety of utility workers or the public, as mandated by the CPUC. SCE facilities are subject to Federal Energy Regulatory Commission jurisdiction. SCE transmission facilities are under operational control of the California Independent System Operator.

The new transmission line interconnections would be maintained in a manner consistent with CPUC General Order (GO) 95 and GO 128 as applicable. Normal operation of the lines would be controlled remotely through SCE control systems and manually, in the field, as required. SCE inspects overhead transmission facilities in a manner consistent with CPUC GO 165 a minimum of once per year via ground and/or aerial observation, but this

usually occurs more frequently based on system reliability. Inspection and maintenance activities of telecommunication facilities would occur at least once per year as well.

Maintenance is performed as needed to maintain circuit reliability. A majority of regular O&M activities related to overhead facilities are performed from existing access roads with no surface disturbance. These activities could include repairing/re-stringing conductors to repair damage, washing/replacing insulators, repairing/replacing hardware components, replacing poles/towers, tree trimming, brush and weed control, and access road maintenance. Repairs to existing facilities, such as repairing/replacing existing poles/towers or conductor re-stringing, could require additional ground disturbance if it is needed in areas between existing poles or off existing access roads.

Routine access road maintenance is conducted on an annual and/or as-needed basis to maintain a vegetation-free corridor to facilitate access to existing facilities and to aide in fire prevention. Road maintenance activities could include blading unimproved roads to smooth over washouts, eroded areas, and washboard surfaces; cleaning ditches; moving/establishing berms; clearing/installing functional drain inlets to culverts; repairing culverts; clearing/establishing water bars; and cleaning/repairing over-side drains. Access road maintenance could include the repair, replacement and/or installation of stormwater diversion devices on an as-needed basis.

O&M activities could also include brushing activities to maintain vegetation-free access roads and clearances around electrical lines. Brushing (i.e., trimming or shrub removal) approximately 2 to 5 feet beyond the road's edge or berm is necessary to keep vegetation from intruding into the roadway. In addition, the clearance of brush and weeds around pole and transmission tower pads is necessary for fire protection and may be required by applicable regulations on fee-owned ROWs. In accordance with Public Resources Code section 4292, a 10-foot radial clearance around non-exempt poles and towers (as required by Cal. Code Regs., tit. 14, div. 1.5, ch. 7, art. 4) would be maintained. In addition to regular O&M activities, emergency repairs could be required at any time. SCE conducts a wide variety of emergency infrastructure repairs due to damage resulting from high winds, storms, fires, and other natural disasters and accidents. Such repairs could include replacement of towers, poles, or conductors.

2.6.5 SCE's Applicant Proposed Measures for SCE Calcite Facilities

SCE has developed the following Applicant Proposed Measures (APM) that it proposes to apply to construction of the SCE Calcite Facilities. These measures are considered as part of SCE's Proposed Project in the impact analysis (see Section 4.3, *Biological Resources*). Additional mitigation is recommended where these measures alone do not provide adequate impact reduction.

BIO-GEN-1: Pre-construction Biological Clearance Surveys and Monitoring

Pre-construction clearance surveys will be performed by a qualified biologist (i.e., a biologist with the requisite education and experience to address specific resources) to avoid or minimize impacts on special status plants and wildlife species, habitat, nesting birds, and other sensitive biological resources in areas with the potential for resources to be present. Sensitive resources identified during the clearance survey will be either:

- Flagged for avoidance;
- Moved to outside impact areas;
- Avoided by implementing procedures to avoid impacts to individuals while impacting habitat (e.g., burrows, dens, etc.); or
- Documented based on permit authorizations

Specific details on the pre-construction survey requirements may be found within measures for each individual species below (i.e., in BIO-HERP-1 for desert tortoise and BIO-MAM-1 for Mohave ground squirrel).

Where special-status species (e.g., reptiles, birds, mammals, and bat roosts) or unique resources (defined by regulations and local conservation plans) are known to occur, and there is a potential for significant impacts, qualified biologists will monitor construction activities to ensure that impacts to special-status species, sensitive vegetation types, wildlife habitat, and unique resources are avoided and minimized.

ENV-GEN-1 WEAP: Worker's Environmental Awareness Training Program

All workers on the project site shall be required to attend a Worker's Environmental Awareness Training Program (WEAP). Training shall inform all construction personnel of the resource protection and avoidance measures as well as procedures to be followed upon the discovery of environmental resources. The WEAP training will include, at a minimum, the following topics so crews will understand their obligations:

- Environmentally sensitive area (ESA) boundaries
- Housekeeping (trash and equipment cleaning)
- Safety
- Work stoppage and environmental monitor authority
- Communication protocol
- Consequences of non-compliance

BIO-AVI-1: Avian-Safe Design

All transmission, substation, and distribution facilities for the project will be designed to be avian-safe, following the intent of Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 (APLIC 2006). All transmission facilities will be

evaluated for potential collision risk and, where determined to be high risk, lines will be marked with collision reduction devices in accordance with Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012).

BIO-HERP-1: Desert Tortoise

Pre-construction surveys/Construction monitoring. Prior to initial ground-disturbing activities, an approved biologist with experience monitoring and handling desert tortoise (*Gopherus agassizii)* will conduct a pre-activity survey in all work areas within potential desert tortoise habitat, plus an approximate 100-foot buffer. All desert tortoise burrows within the pre-activity survey area (including desert tortoise pallets) will be prominently flagged at that time so that they may be avoided during work activities.

An approved biologist will be onsite to monitor vegetation removal and grading until desert tortoise fencing is installed around the perimeter of the site and as needed thereafter. For work areas located outside of desert tortoise fencing, an approved biologist will be onsite to monitor vegetation removal and grading and provide regular inspections of all other construction activities within desert tortoise habitat. The approved biologist will have the authority to halt all non-emergency actions (as soon as safely possible) that may result in harm to desert tortoise, and will assist in the overall implementation of APMs for the tortoise.

In the event a desert tortoise is encountered in the work area, all work will cease and the approved biologist will be contacted. Work will not commence until the animal has voluntarily moved to a safe distance away from the work area. No tortoise will be handled except under authorization from the USFWS and CDFW. Encounters with desert tortoise will be documented and provided to the appropriate wildlife resource agencies. In the event a dead or injured desert tortoise is observed, the approved biologist will be responsible for notifying SCE's Herpetologist and reporting the incident to the wildlife resource agencies.

Coordinate with agencies. If desert tortoise is observed in the project area, and avoidance is not possible through project design, SCE would obtain the necessary permits or authorizations in consultation with USFWS, CDFW, and/or land management agencies.

Avoid and minimize impacts. All project activities located within areas identified as desert tortoise habitat shall implement the following avoidance and minimization measures:

- Under Vehicle Checks. Desert tortoises commonly seek shade during the hottest times of the day. Employees working within the geographic range of this species will be required to check under their equipment or vehicles before they are moved. If desert tortoises are encountered, the vehicle will not be moved until the tortoise has voluntarily moved away from the equipment or vehicle.

- Disposal of Trash. Trash and food items will be contained in closed containers and removed daily to reduce attractiveness to opportunistic predators, such as common ravens (*Corvus corax*), coyotes (*Canis latrans*), and feral dogs (*Canis lupus familiaris*).
- Pets Prohibited. Employees will not bring pets or other animals to the Proposed Project area, unless the animal is ADA compliant.
- Vehicle Travel. During construction-related activities, motor vehicles will be limited to maintained roads, designated routes, and areas identified as being permanently or temporarily affected by construction within the Project footprint. Motor vehicle speeds along Project routes and access roads within habitat for desert tortoise will not exceed 20 miles per hour.
- Trapped Animal Prevention. All auger holes, trenches, pits, or other steep-sided excavations that may pose a hazard to desert tortoise will be either constructed with escape ramps (earthen or wooden) or securely covered when unattended to prevent entrapping animals. At the start and end of each workday, and just before backfilling, all excavations will be inspected for trapped animals. If found, trapped animals will be removed by the qualified biologist and relocated to outside the Project footprint, as required in all applicable permits or habitat conservation plans.

BIO-MAM-1: Mohave Ground Squirrel

Pre-construction survey/Construction monitoring. Prior to initial ground-disturbing activities, a qualified Mohave Ground Squirrel (MGS; *Xerospermophilus mohavensis*) biologist would conduct pre-construction surveys within identified MGS habitat areas. The preconstruction surveys would identify MGS individuals or burrows for avoidance. The qualified biologist would demarcate (e.g., flagging, signage, fencing, construction maps, etc.) avoidance areas as needed to prevent impacts. Qualified biological monitors would monitor all construction activities in occupied habitat and areas adjacent to occupied habitat. The qualified biologist would have the authority to stop all activities with the potential to impact MGS. Work would not resume in that area until appropriate corrective measures have been implemented.

Coordinate with agencies. If MGS habitat is determined or presumed to be occupied within or adjacent to impact areas (including access routes), or if presence is assumed (no trapping due to poor conditions or time constraints), SCE would consult with CDFW to determine whether the protective measures identified below are sufficient or if additional measures may be needed and obtain an incidental take permit (ITP), if needed.

Avoid and minimize impacts. All project activities located within areas identified as suitable MGS habitat would implement the following avoidance and minimization measures:

- Burrow avoidance. A qualified biologist would demarcate (e.g., flagging, signage, fencing, construction maps, etc.) a 50-foot buffer avoidance area around all potential MGS burrows as needed to prevent impacts.
- Trash disposal. Trash and food items would be contained in closed containers and removed daily to reduce attracting predators.
- Pets Prohibited. Employees would not bring pets or other animals to the Proposed Project area, unless the animal is ADA compliant.
- Vehicle Travel. During construction-related activities, motor vehicles would be limited to maintained roads, designated routes, and areas identified as being permanently or temporarily affected by construction within the Project footprint. Motor vehicle speeds along Project routes and access roads within habitat for MGS would not exceed 20 miles per hour.
- Trapped animal prevention. All auger holes, trenches, pits, or other steep-sided excavations that may pose a hazard to MGS would be either constructed with escape ramps (earthen or wooden) or securely covered when unattended to prevent entrapping animals. At the start and end of each workday, and just before backfilling, all excavations would be inspected for trapped animals. Any MGS found would be allowed to escape unimpeded. If a MGS is trapped and does not leave on its own, a qualified biologist would move the animal according to agency authorizations; if there is no agency authorization, the MGS would not be moved (unless in imminent danger) until the CDFW has been contacted and further guidance has been received.
- Cover Materials. All pipes or other construction materials or supplies would be covered or capped in storage or laydown areas at the end of each workday to prevent entrapping animals. No pipes or tubing of sizes or inside diameters ranging from 3 to 10 inches would be left open either temporarily or permanently. All pipes or other construction materials would be inspected for wildlife prior to moving or installing. MGS would be allowed to leave on their own accord or would be removed by a qualified biologist according to an ITP, if obtained, or other authorization requirements.

3.0 CUMULATIVE SCENARIO

3.1 INTRODUCTION

The area of San Bernardino County where the Proposed Project would be located is characterized by mostly undeveloped open space land, with some low-density residential land uses. The Lucerne Valley includes and is surrounded by federal lands: public lands administered by the Bureau of Land Management (BLM) to the west, north, and east, and the San Bernardino National Forest to the south.

This section provides a map and a list of projects within 10 miles of the proposed Stagecoach Facilities and describes why these projects are considered in the cumulative impact analyses. Collectively, the Stagecoach Facilities would include the Stagecoach Solar Generation Plant (including ancillary project facilities and a battery energy storage system (BESS)), and the Stagecoach Gen-tie Line, a 220 kilovolt (kV) electrical generation intertie (gen-tie) line. Section 4.0 *Introduction to Environmental Setting and Analysis,* includes an overview of the approach to cumulative impact analysis. The proposed Southern California Edison (SCE) Calcite Facilities are identified as a cumulative project but are evaluated as part of the Proposed Project since it would be needed to deliver the generated solar power to the electrical transmission grid. The cumulative impact analyses are included in the individual environmental resource sections provided in Sections 4.1 through 4.18 of this Environmental Impact Report (EIR). Key factors considered in the cumulative analyses include:

- The type and characteristics of the resource
- The geographic (spatial) limits of a cumulative effect
- The timing and duration of the Proposed Project relative to the past, present, and reasonably foreseeable cumulative projects

As used in the analysis of cumulative impacts, the term “cumulative scenario” includes the proposed Stagecoach Facilities and other identified projects whose impacts have the potential to combine with or overlap with those of the Proposed Project.

Issues raised during scoping relating to the cumulative scenario included the SCE Calcite Facilities being evaluated as part of the Proposed Project.

The cumulative impact analysis for each environmental resource topic describes whether the Proposed Project would result in cumulatively considerable significant short-term or long-term environmental impacts when combined with other past, present, and reasonably foreseeable future projects in the area. Short-term impacts are generally associated with construction. Each cumulative project has its own implementation schedule, which may or may not overlap with the Proposed Project’s schedule. Long-term impacts result from ongoing operation and maintenance of the Proposed Project and other projects in the cumulative scenario.

3.2 METHODOLOGY FOR SELECTING CUMULATIVE PROJECTS

State California Environmental Quality Act (CEQA) Guidelines,[9] section 15130 requires that an EIR discuss cumulative impacts of a project when the project's incremental effect may be cumulatively considerable. As defined in State 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.*

As noted in State CEQA Guidelines, section 15355:

> *Cumulative impacts refer to two or more individual effects, which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project 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.*

To identify the projects to be analyzed in the evaluation of cumulative impacts, State CEQA Guidelines, section 15130, subdivision (b) requires that an EIR employ either:

- **The List Approach,** which entails listing past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the agency; or
- **The Projection Approach,** which uses a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact

This EIR uses the list approach. Past projects include those land uses that have been previously developed; these comprise the existing environment. Present projects include those projects recently approved or under construction. Probable future projects are those that are reasonably foreseeable, such as those for which an application is on file and in process with a local planning department. The cumulative projects presented in this section that have been determined to be reasonably foreseeable are future projects that were either proposed or approved at the time the EIR analysis was initiated. In addition,

[9] The "State CEQA Guidelines" refers to California Code of Regulations, Title 14, Chapter 3.

existing solar development is considered. This cumulative project list was developed in consultation with the San Bernardino County Planning Department.

Cumulative impacts evaluated in this EIR represent a "worst-case" scenario, since not all the cumulative projects may be approved, constructed, or coincide with Proposed Project activities. As well, other projects would likely be, or have been, subject to mitigation measures that would reduce their impacts and thereby reduce the potential for contributing to cumulative impacts.

The cumulative impact analysis is only able to consider future projects that are reasonably foreseeable, meaning future projects that were either proposed or approved at the time the EIR analysis was initiated. However, additional projects are listed in Section 3.3 to provide background on solar projects in San Bernardino County.

3.3 CUMULATIVE PROJECTS

For purpose of conducting the cumulative impact analysis, information was collected on foreseeable projects in the vicinity of the Proposed Project that are in the planning stages, adopted, under construction, or completed. Projects considered are those whose impacts have the potential to combine with impacts of a similar nature resulting from the Proposed Project, thereby contributing to cumulative impacts. Information has been collected on foreseeable projects located in the vicinity of the Proposed Project, including solar development and other project types. A radius of 10 miles was chosen since this captures any proposed development throughout Lucerne Valley (see Table 3-1 and Figure 3-1). Table 3-1 includes both solar and non-solar development proposals.

In order to provide context for the Proposed Project, this section also describes proposed and existing solar projects in the County, with a larger radius around the Project area (within about 40 miles of the Proposed Project). These project locations are also shown on Figure 3-1. Proposed and existing projects are listed as follows:

- Table 3-2 lists proposed solar projects, as listed in the County Land Use Services/ Planning Division Renewable Energy Projects database (San Bernardino County 2021b). Table 3-2 also includes projects that are no longer valid applications to the County, based on recent actions. The final four rows show these projects. One (Map ID F) has been withdrawn by the developer. The final three solar projects listed in Table 3-2 (Map ID's K, L, and M) were approved by the County but their approvals have expired so the approvals are no longer valid. The status of these projects is presented in Table 3-2 because their current status may not be known to the public.
- Table 3-3 lists existing solar projects that have been constructed in the County since 2012, as identified in the renewable energy projects database (San Bernardino County 2021b).

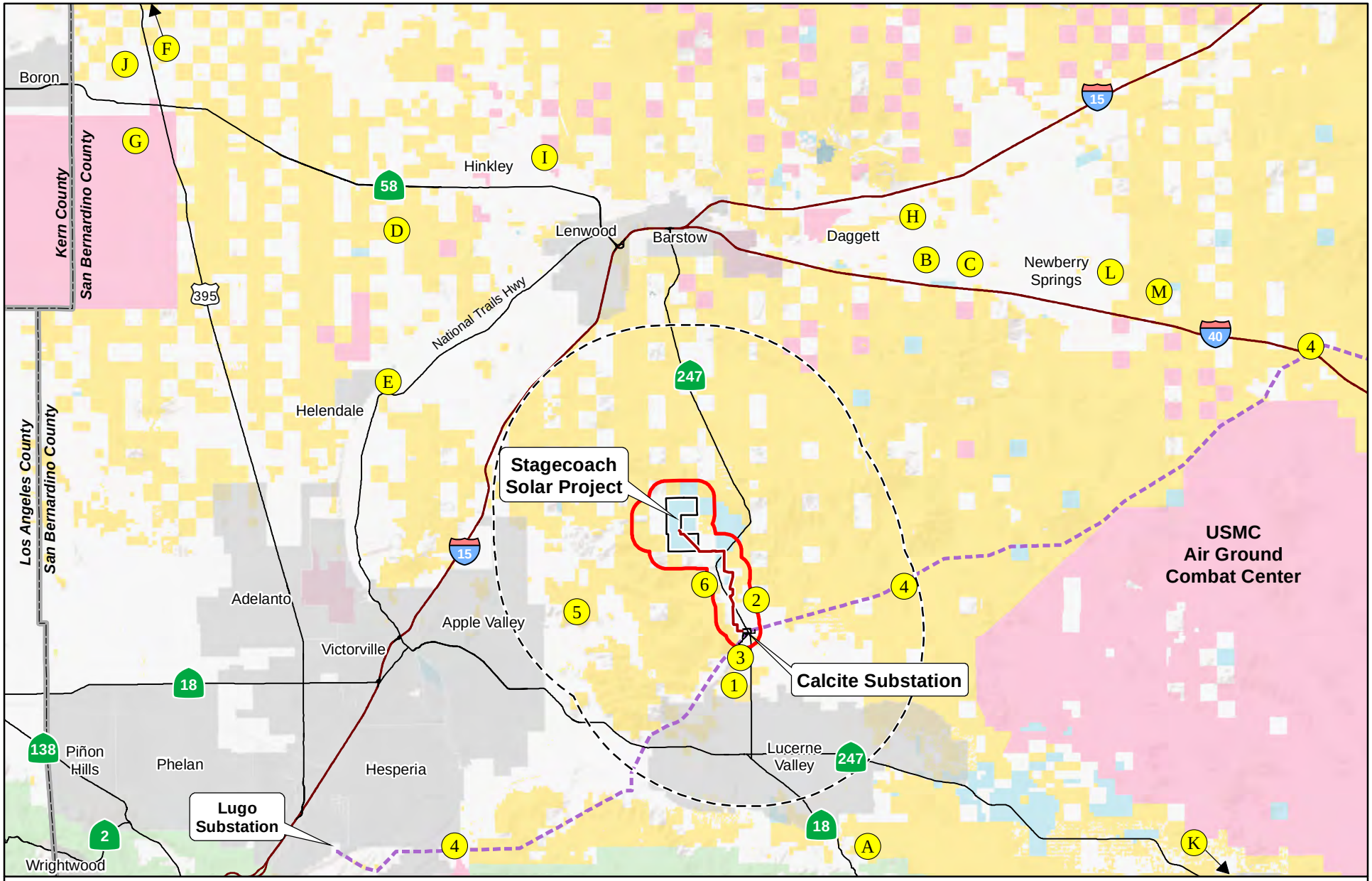


Figure 3-1

Cumulative Projects

Table 3-1. Cumulative Projects within 10 Miles of the Proposed Stagecoach and SCE Calcite Facilities

Map #	Project Name	Location	Description	Status
Proposed Solar Projects (see Figure 3-1)				
1	Sienna Solar North, South, East, and West	Lucerne Valley: Four separate sites near Comet Road, North Side; approximately 5,800 ft. west of Comet Road and State Route 247 (SR-247, or Barstow Road) intersection and two separate sites near the northwest corner of Barstow Rd (SR-247) and Granite Rd	Solar PV project on 1630 acres, 450 MW. The project includes four noncontiguous solar locations and would connect to the proposed SCE Calcite Facilities north of the Project site.	Application accepted – Applicant working on revisions to address engineering challenges
2	Ord Mountain Solar LLC	Lucerne Valley: east of SR-247, along Desert Lane, west of Meridian Road	Solar PV project on 483 acres, 60 MW. This project would include a 4-hr energy storage battery system and an overhead 0.6-mile gen-tie line that would connect to the proposed SCE Calcite Facilities.	Draft EIR published October 2018. Application subsequently placed on hold by Applicant
3	Calcite Solar I – Lendlease Energy Development, LLC	Lucerne Valley: four separate sites near the intersection of Northside Road and SR-247	Solar PV project on 664 acres, 100 MW. The project includes four noncontiguous locations and would connect to the proposed SCE Calcite Facilities, which are north of the Project.	NOP issued in January 2019. Application subsequently placed on hold by Applicant

Table 3-1. Cumulative Projects within 10 Miles of the Proposed Stagecoach and SCE Calcite Facilities

Map #	Project Name	Location	Description	Status
Proposed Non-Solar Projects (see Figure 3-1)				
4	SCE Eldorado-Lugo Mohave Capacitor Project	San Bernardino County, CA, and Clark County, NV	The only elements of this project occurring in Lucerne Valley would be replacement of the existing ground wire at the apex of existing transmission towers and construction of an optic repeater station in the transmission corridor on Fern Road, east of SR-247 and north of Haynes Road. This repeater would be located under the existing transmission lines. Other components extend from the Lugo Substation (Hesperia) to the Mohave and Eldorado Substations (Nevada).	Approved by CPUC, BLM, and NPS; construction underway in 2021.
5	Hacienda at Fairview Valley Specific Plan	Fairview Valley: 2 miles east of the Town of Apple Valley, and within its sphere of influence	The Hacienda at Fairview Valley Specific Plan (1,557 acres) defines a master planned residential community (approximately 6 miles west of the SCE Calcite Substation and 6 miles south of the Stagecoach Solar Generation Plant). Separated from Stagecoach site by Sidewinder and Granite Mountains.	County adopted Specific Plan on 2/25/14 but no construction has started
6	Monastery, P201700152	Lucerne Valley: East of SR-247, 21010 Lucerne Valley Cutoff	Revision to an approved action for a phased project to build a 14,000-sf hall (Phase I) and a 14,165-sf residence to house monastery residents (Phase II) on approximately 117 acres.	Construction in progress

Sources: San Bernardino County 2021b; San Bernardino County 2018a; CPUC 2019

Table 3-2. Proposed Solar Projects in San Bernardino County (More than 10 Miles from the Proposed Stagecoach Solar Project)

Map #	Project Name	Location (see Figure 3-1)	Description	Status[1]
A	Camp Rock Solar Farm LLC	Lucerne Valley: West side of Camp Rock Road, 650 ft. south of Bauer Road	Solar PV project on 20 acres, 4 MW	Under County review; no activity since 2017
B	Daggett Solar 33	Daggett: On National Trails Hwy, approx. 1 mile west of Hidden Springs Road	Solar PV project on 33.9 acres, 5 MW	Under County review: IS/MND published July 2021
C	Daggett Solar 66	Daggett: I-40 at Nebo St, northeast of Barstow, east of 33640 National Trails Hwy Barstow	Solar PV project on 133.9 acres, 7 MW	MND published March 2021. No date for Planning Commission hearing.
D	Jazmin Solar Energy Storage	Hinkley: East side of Harper Lake Road, approx. 3.9 miles north of SR-58	Solar PV Project on 40 acres, 8 MW	Conditionally Approved by Planning Commission July 2021
E	Corral Solar	Helendale: North of Natl Trails Hwy, south of ATSF Railroad, west of Corral Road	Solar PV Project on 58.5 acres, 5 MW	Under County review. Application accepted. Technical studies being prepared.
G	Kramer South Solar Farm – 37BF 8me, LLC	Kramer Junction: Sheep Creek Rd and SR-58	Solar PV project on 386 acres, 130 MW	Conditionally approved by the San Bernardino County Planning Commission June 2020
H	Daggett Solar Power 1 LLC	Daggett: East of Sunray Lane, South of Valley Center, North of Chloride Street, Santa Fe	Solar PV project on 3500 acres, 650 MW	Conditionally approved by County (9/19/19); Board of Supervisors upheld approval (12/10/19). Construction in progress October 2021.
I	Lockhart Solar	Hinkley: 43450 Harper Lake Road, Hinkley	Solar PV project on 1073 acres, 160 MW	Under Review. Application accepted, technical studies and environmental document being prepared.
J	Kramer North Solar Farm – 12AT 8ME, LLC	Kramer Junction: West side of Hwy 395, approx. 2.5 miles north of Hwy 58	Solar PV project on 191 acres, 70 MW	Conditionally Approved, no permits issued

Table 3-2. Proposed Solar Projects in San Bernardino County (More than 10 Miles from the Proposed Stagecoach Solar Project)

Map #	Project Name	Location (see Figure 3-1)	Description	Status[1]
EXPIRED APPROVALS OR PROJECTS WITHDRAWN				
F	Rubita Solar	Kramer Junction: Hwy 395, 9 miles north of Kramer Junction	Solar PV Project on 1280 acres, 100 MW	**Application withdrawn**
K	Joshua Tree Solar Farm – Next Era Energy Resources	Joshua Tree: Southwest corner of Sunfair Road and 4th Street	Solar PV project on 115 acres, 20 MW	Conditionally Approved; Board of Supervisors upheld approval on 8/9/16. **EXPIRED.**
L	Silver Valley	Newberry Springs: East side of Sunrise Canyon Rd, approximately 3.5 miles north of I-15 and Minneola Rd	Solar PV project on 105 acres, 20 MW	Conditionally Approved – No Permits Issued. **EXPIRED.**
M	Ned Araujo (formerly Soltech Solar Inc.)	Newberry Springs: Northeast corner of Camelot Rd and Desert View Rd	Solar PV project on 14 acres, 2 MW	Conditionally Approved – No Permits Issued. **EXPIRED.**

[1] Projects listed "under review" are being considered by the County of San Bernardino Land Use Services/Planning Division.

Source: San Bernardino County, 2021b

Table 3-3. Utility-Scale Solar Projects Constructed in San Bernardino County Since 2012

Project Name	Location	Description	Status
Abengoa Mojave Solar Power Plant	Hinkley: 42134 Harper Lake Rd	Solar trough on 1,200 acres, 280 MW	Constructed in 2014
Agincourt Solar	Lucerne Valley: southwest corner of Rosewood Street and Camp Rock Road	Solar PV project on 80 acres, 10 MW	Constructed in 2014
Alamo Solar	Helendale: north of Melrose Avenue, north and south side of Turner Road	Solar PV project on 120 acres, 10 MW	Constructed in 2015
Avalon Solar Development	Apple Valley: southeast corner of Shirwaun Road and Powhatan Road	Solar PV project on 18.5 acres, 2 MW	Constructed in 2014

Table 3-3. Utility-Scale Solar Projects Constructed in San Bernardino County Since 2012

Project Name	Location	Description	Status
Cascade Solar	Joshua Tree: east side of Lawrence Avenue, both sides of Broadway Street	Solar PV project on 150 acres, 19 MW	Constructed in 2013
EDF Renewables – Longboat Solar	Barstow: west of Highway 58, both sides of Community Boulevard	Solar PV project on 229 acres, 20 MW	Constructed in 2016
Marathon Solar	Lucerne Valley: west of Camp Rock Road, northeast of State Route 18, and South of Rosewood Street	Solar PV project on 152 acres, 20 MW	Constructed in 2014
SEPV2, LLC	Twentynine Palms: southwest corner of Lear Avenue and Cove View Road	Solar PV project on 20 acres, 2 MW	Constructed in 2012
SEPV8, LLC	Twentynine Palms: west of Lear Avenue, south of Mesa Drive	Solar PV project on 100 acres, 12 MW	Constructed in 2013
SEPV9, LLC	Twentynine Palms: west of Morongo Road, extending between Valle Vista Road and Indian Trail	Solar PV project on 80 acres, 9 MW	Constructed in 2013
Solutions for Utilities, Inc. Phase 1&2 (Now Soitec)	Newberry Springs: northwest corner Cottonwood Road and Mountain View Road	Solar PV project on 22 acres, 3 MW	Constructed in 2013
SunEdison – Duncan Road	Phelan: northwest Corner of Duncan Road and Greystone Road	Solar PV project on 26 acres, 3.2 MW	Constructed in 2015
SunEdison – White Road	Phelan: west of White Road, between Nelson Road and Muscatel Road	Solar PV project on 48 acres, 5.8 MW	Constructed in 2015
Sunlight Partners (Helendale)	Helendale: southwest corner of Wild Road and Smithson Road	Solar PV project on 80.6 acres, 8 MW	Constructed in 2014
Sunlight Partners (Nunn)	Apple Valley: northeast corner of Esaws Road and Joshua Road	Solar PV project on 16 acres, 1 MW	Constructed in 2013
Sunlight Partners (Watts)	El Mirage: south of El Mirage Road, extending between St. Lawrence Road and Chamisal Street	Solar PV project on 26 acres, 3 MW	Constructed in 2013

Table 3-3. Utility-Scale Solar Projects Constructed in San Bernardino County Since 2012

Project Name	Location	Description	Status
Sunray Energy 2, LLC	Daggett: 35100 Santa Fe Street	Solar PV project on 333 acres, 44 MW	Constructed in 2017
Victor Dry Farm Ranch	Phelan: bounded by Dos Palmas, White, Trinidad, and Maricopa Roads	Solar project on 40 acres, 10 MW	Constructed in 2015

Source: San Bernardino County, 2021b